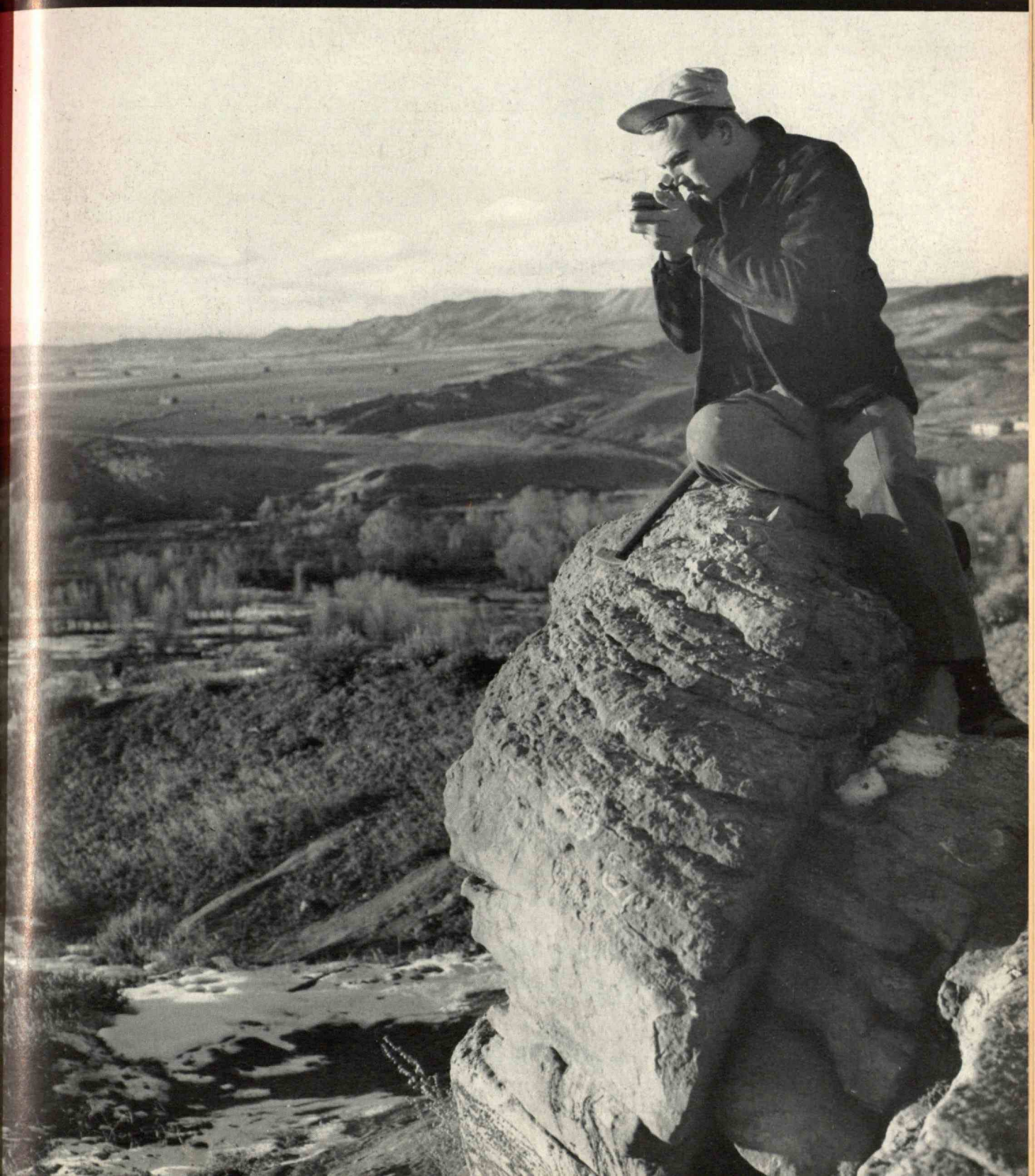
TECHNOLOGY REVIEW

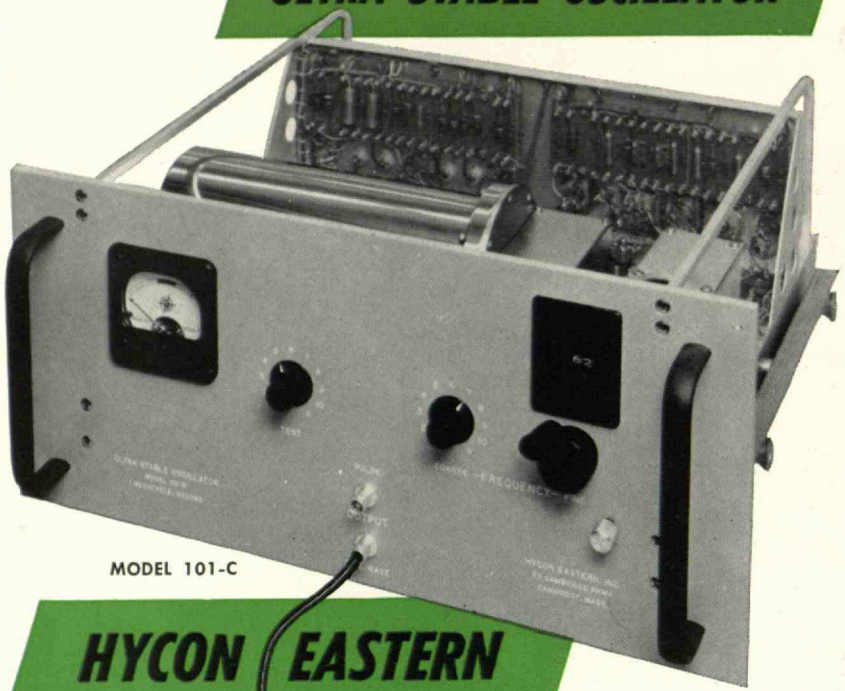
December 1956



technology
review
Published by MIT

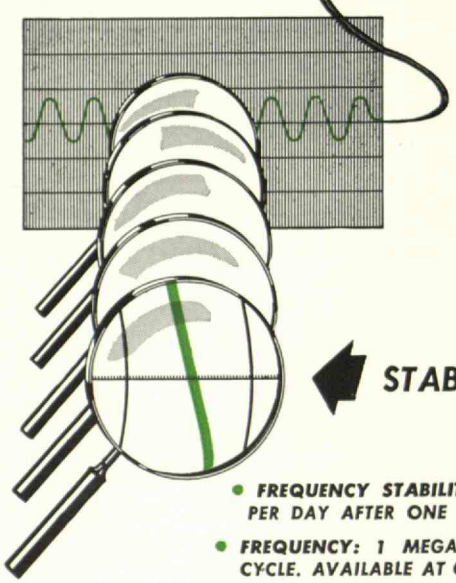
Proven Outstanding in its Class . . .

ULTRA STABLE OSCILLATOR



MODEL 101-C

HYCON EASTERN



Hycon Eastern's new Ultra Stable Oscillator is a one megacycle signal source of exceptional stability. It is useful wherever precise time measurements or frequency control are required, as in reinsertion of carrier in suppressed carrier systems, telemetry, astronomical measurements, navigation systems, geophysics or other critical applications.

STABILITY: 1 PART IN 10^9

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- **CRYSTAL OVEN:** STABILIZED TO BETTER THAN 0.01°C BY TEMPERATURE-SENSITIVE RESISTANCE BRIDGE. OVEN CONTAINS NO MOVING PARTS.
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Write for Ultra Stable Oscillator Bulletin

HYCON EASTERN, INC.

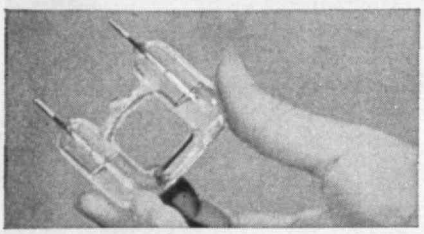
75 Cambridge Parkway Dept. H-12 Cambridge 42, Mass.
Affiliated with HYCON MFG. COMPANY, Pasadena, California

THE TECHNOLOGY REVIEW, December, 1956, Vol. LIX. No. 2. Published monthly from November to July inclusive at Emmett Street, Bristol, Conn. Publication date: twenty-seventh of the month preceding date of issue. Annual subscription $4.00; Canadian and Foreign subscription, $4.50. Entered as second-class matter December 23, 1949, at the Post Office, at Bristol, Conn., under the Act of March 3, 1879.

NORTHROP DUPLICATES HUMAN EAR

For use in its Guided Missile Programs

(HAWTHORNE, CALIF.) Scientists at Northrop Aircraft have duplicated the balance mechanism of the human ear in perfecting a highly effective "brain" unit for use in Northrop's advanced guided missile programs. Weighing little more

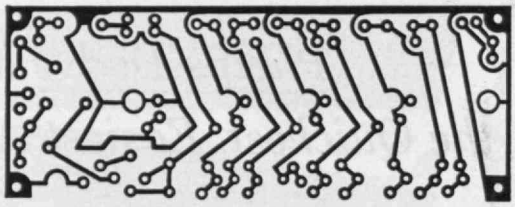


than an ounce, it resembles the convolutions of the inner ear in shape. Northrop engineers say the new instrument is so sensitive that if installed at the top of the Washington Monument it could detect the vibrations created by the footsteps of a small child entering the door at the base of the edifice.

The instrument consists of twin tubes of glass joined at the bottom by two smaller glass tubes. An electrolytic solution, precisely injected by a hypodermic needle, covers tungsten electrodes after they are fused into the glass. These are connected to an AC Wheatstone bridge circuit.

Scientists describe this sensitive device as a manometer accelerometer. In lay terms it is known as a "flying plumb bob," because it can continuously report to the complex automatic guidance "brain" of a missile even the slightest course deviation. It can also be used as an accurate vertical-sensing device in military weapons and for automatic precision leveling in survey operations. It also has potential use in preparing seismographs of earth movements.

At Northrop Aircraft, advanced projects such as this are a constant challenge to the electrical engineer's ingenuity and skill. Here, far-seeing planning has won for Northrop the distinction of being a pioneer in many fields of advanced engineering that relate to the development of supersonic aircraft and missiles.



ELECTRICAL ENGINEERS

If you have had engineering experience in any of the categories shown below, Northrop Aircraft has an attractive position for you, with many benefits. Important among them are high compensation, challenging assignments, steady advancement, recognition of initiative and ability, and continued interest in your progress. Many outstanding engineering positions are offered, as follows:

ELECTRICAL GROUP, which is responsible for the design of such things as power generation and distribution systems, rectifiers and power converters, and auxiliary systems as applied to manned aircraft, guided missiles and ground support equipment.

COMMUNICATIONS AND NAVIGATION GROUP, which is responsible for the design of C/N systems in manned aircraft and installation of guidance systems in missiles.

FIRE CONTROL RADAR GROUP, which is responsible for the installation and application of the most advanced type of fire control systems in fighter-interceptor aircraft. The work covers the installation of the equipment and associated wiring; continuing liaison with equipment manufacturers; preparation of system analysis and reports; and follow-up of system performance in the field as aircraft become operational.

INSTRUMENT GROUP, which is responsible for the design of instrument systems for manned aircraft and the installation of flight test instrumentation for guided missiles.

There are also opportunities for draftsmen with either electrical or mechanical experience.

At Northrop Aircraft you will be with a company that has pioneered for seventeen years in missile research and development. Here you can apply your skill and ability on top level projects such as Northrop's new supersonic trainer airplane, Snark SM-62 intercontinental missile, and constantly new projects. And you'll be located in Northrop's soon to be completed multi-million-dollar engineering and science building, today's finest in comfortable surroundings and newest scientific equipment.

If you qualify for any of these representative positions, we invite you to contact the Manager of Engineering Industrial Relations, Northrop Aircraft, Inc., ORegon 8-9111, Extension 1893, or write to: 1015 East Broadway, Department 4600-BB, Hawthorne, California.

NORTHROP

NORTHROP AIRCRAFT, INC., HAWTHORNE, CALIFORNIA

Producers of Scorpion F-89 Interceptors and Snark SM-62 Intercontinental Missiles

5-A-87

coal (by the gallon) to produce steam (by the ton)

In September 1956, the laying of the pipe for the first long-distance commercial *coal pipeline* in the United States was completed. This unique pipeline—108 miles long—is capable of delivering 150 tons of coal per hour... from the Georgetown, Ohio, properties of Pittsburgh Consolidation Coal Company to the Eastlake plant of The Cleveland Electric Illuminating Company. The coal will be pumped in the form of a "slurry"—a 50-50 mixture of crushed coal and water.

At Eastlake—one of the country's most efficient power stations—the slurry will be delivered to thickeners, vacuum filters, and a battery of C-E Raymond Flash Drying Systems manufactured by Combustion Engineering. Together, these will remove the moisture at the rate of 36,000 gallons per hour. The dried coal will then be pulverized in C-E Raymond Bowl Mills and burned in four mammoth Combustion boilers of the Controlled Circulation type, together capable of producing over 2,000 tons of steam per hour.

Combustion's participation in this project is another instance of its leadership in pioneering improved means for fuel utilization. Throughout the free world, C-E enjoys a reputation for the most advanced engineering in steam generation and related fields. Whether your steam requirements can best be met by coal, oil, gas, or any of a number of special fuels—and regardless of the type or size of boiler you need—the C-E line of fuel burning and steam generating equipment can supply just the right installation for your needs.

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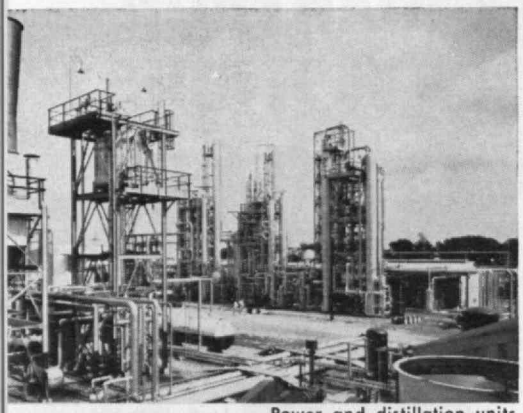
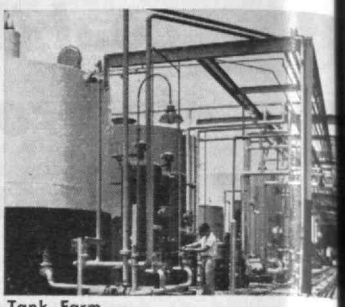
VIEWS OF GENERAL ANILINE & FILM CORPORATION PLANT AT CALVERT CITY, KENTUCKY



Power and distillation units

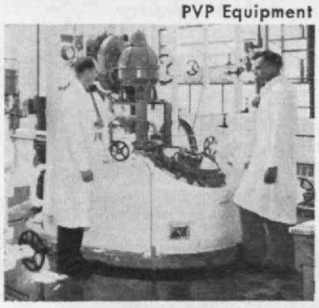
Distillation Units

Loading facilities

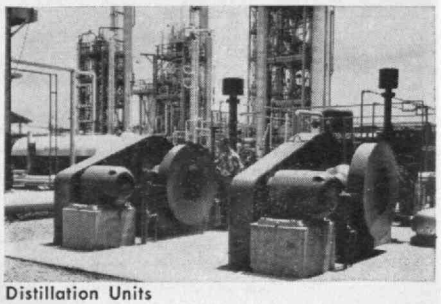


Tank Farm

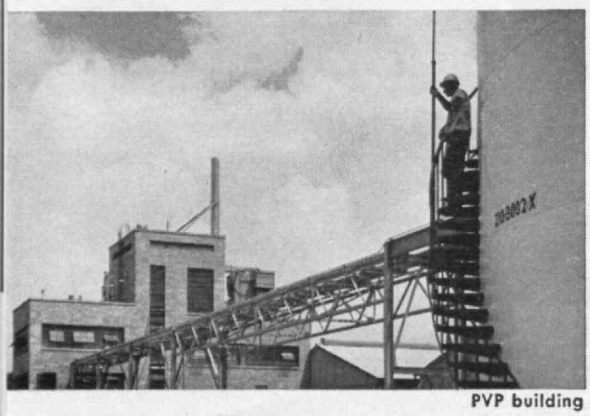
Hydrogen compressors



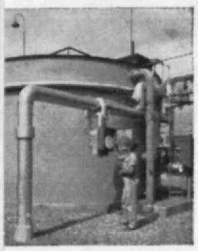
PVP Equipment



Distillation Units



PVP building



Storage and metering

PVP Unit and Administration Building

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Acetylene chemicals derived from high pressure synthesis are expanding horizons in the chemical process industries. After 14 years of research, General Aniline & Film Corporation developed a commercial process for making them, but that process called for a unique plant, unlike any hitherto existing in the U. S.

The critical task of engineering and building this plant was entrusted by General Aniline to The Lummus Company. On stream since early this year, it is now producing at a multi-million pound annual rate for markets in a number of different fields.

GAF's selection of Lummus for this challenging job is significant to management generally. It underlines the fact that the engineering and construction of a new plant is a specialized undertaking. Its problems do not lend themselves readily — and certainly not economically — to do-it-yourself solutions. They call instead for the knowledge, skills and varied experience of a top-flight engineering service.

Talk with Lummus before you start *your* next project.

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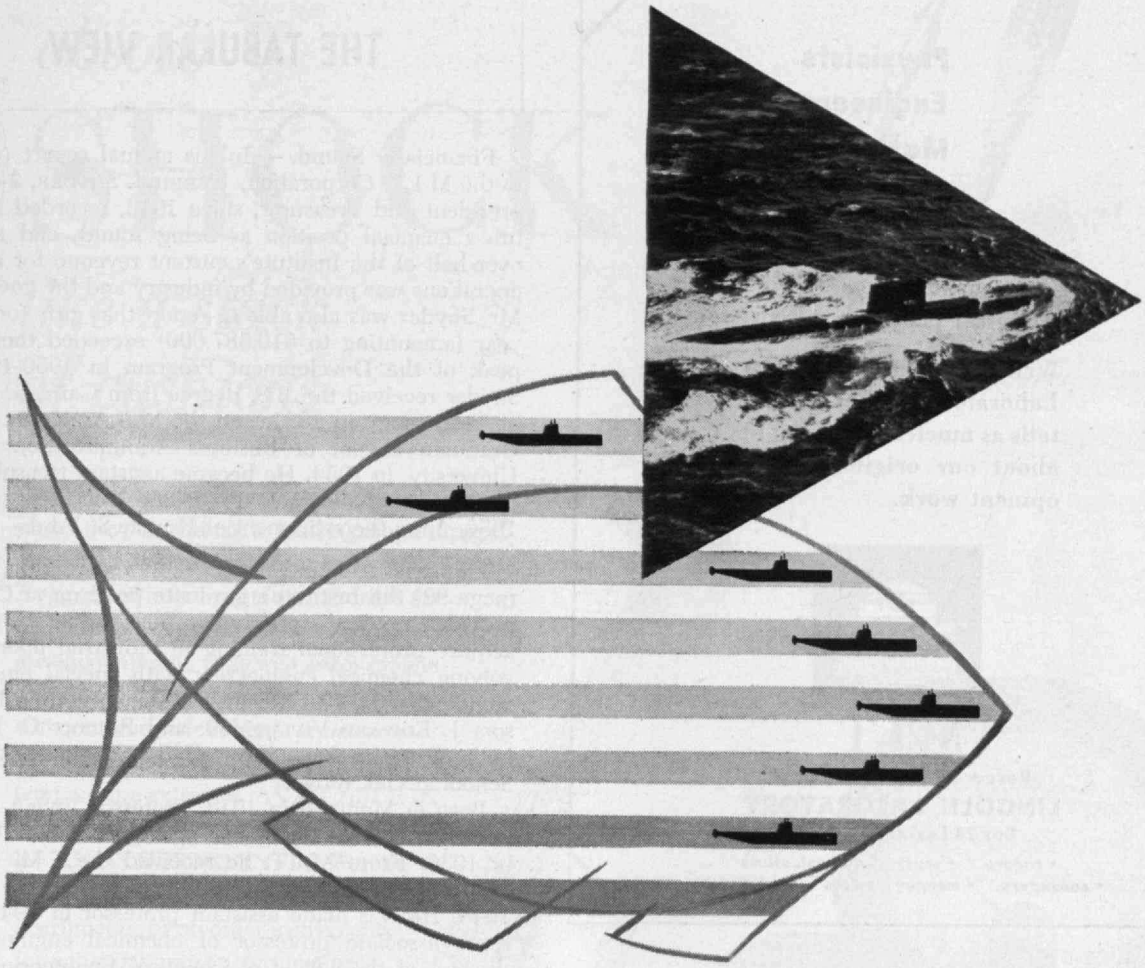

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THE TABULAR VIEW

Financially Sound. — In his annual report (page 92) to the M.I.T. Corporation, JOSEPH J. SNYDER, 2-44, Vice-president and Treasurer, since 1952, recorded the Institute's financial position as being sound, and that well over half of the Institute's current revenue for academic operations was provided by industry and the government. Mr. Snyder was also able to report that gifts for the past year (amounting to $10,387,000) exceeded those at the peak of the Development Program in 1950-1951. Mr. Snyder received the B.S. degree from Carnegie Institute of Technology in 1931, and the M.B.A. degree from the Graduate School of Business Administration, Harvard University, in 1934. He became assistant treasurer of the Institute on January 1, 1946, and treasurer on July 1, 1950, upon the retirement of Horace S. Ford.

Industrial Atomic Energy. — As recorded in this issue (page 93) the Institute's graduate program at Oak Ridge provides unusual opportunity for graduate students to acquire professional training in industrial operations involving chemical engineering with special emphasis on atomic energy. The Review's article is written by Professors J. EDWARD VIVIAN, '39, and ROBERT C. REID, '54, both of whom have directed the Engineering Practice School at Oak Ridge.

Born in Montreal in 1913, Professor Vivian was graduated in chemical engineering from McGill University in 1936. From M.I.T. he received the S.M. degree in chemical engineering in 1939 and the Sc.D. degree in 1945. He was made assistant professor in 1942 and became associate professor of chemical engineering and director of the School of Chemical Engineering Practice in 1946. Two years later he became director of the Oak Ridge Engineering Practice School, and in 1956 was appointed professor of chemical engineering.

Born in Denver in 1924, Professor Reid was graduated from the East Denver High School in 1942, and from the U.S. Merchant Marine Academy at Kings Point in 1945. Purdue University awarded him the B.S. degree in 1950 and the M.S. in 1951. In 1954 he received the Sc.D. de-

(*Concluded on page 76*)

absorb

SHOCK

like a stack of cushions

Components must be *more* than tough to stand up under the punishment to which ground support equipment is subjected. That's why WESTON Ruggedized instruments are favorites for applications when severe shock and vibration are encountered . . . as well as for mobile equipment requiring instruments that will continue functioning—*accurately*—through shock, vibration, moisture, or temperature extremes. AVAILABLE IN ALL REQUIRED SIZES, IN A-C, D-C, RF AND THERMO TYPES. For the complete story on Weston Ruggedized instruments, or on other instruments for panel, laboratory, production or servicing needs, consult your nearest Weston representative, or write Weston Electrical Instrument Corp., Newark 5, N. J.

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PANEL INSTRUMENTS

A DAYSTROM UNIT

gree from M.I.T. He was appointed assistant professor in 1954, and at that time became director of the Engineering Practice School at Oak Ridge. He returned to M.I.T. this fall.

Exceptional Youths. — Honors come to most people — if they come at all — too late to do them any real good. But, as recorded on page 97, an award recently established as a memorial to Robert Lansing Hardy, '53, aims to provide stimulus and incentive to youths of exceptional merit while such honors can still be an effective spur to professional creativeness.

Visual Probe. — Few members of the Institute's research staff have made greater personal contributions, or have worked under more difficult conditions, than CLIFFORD M. WITCHER. Blind since infancy, Dr. Witcher used his education in physics as a means for developing electromechanical sensory aids for the blind. Engineering on the visual probe (page 98), was completed and the first group of experimental units was ready for field tests when death came to Dr. Witcher. An obituary notice appears on page 88. Long associated with Dr. Witcher, Lamar Washington, Jr., assisted in seeing his article through production.

Olympics Bound. — M.I.T. Sailing Master WALTER C. WOOD, '17, emphasizes the value of sailing at the Institute in his account (page 100) of the part Technology sailors are playing at the Olympics at Melbourne Bay this year.

Unlocking the secrets of the universe

AMAZING TEXTILE FIBERS spun out of natural gas . . . wonder drugs squeezed from a lump of coal . . . shining stainless steel forged from drab, brownish earth.

These man-made marvels—and nearly everything else that is vital to modern living—were born in the minds and hands of research scientists in their search for a better understanding of our world.

Never satisfied with things as they are, the research scientist takes apart the raw materials of nature to capture the basic "building blocks" of the universe. Then he rearranges and combines the pieces into new and better things that help improve our lives.

Hundreds of useful products have been created from such basic substances as oil, natural gas, ores, air, and water. And the wonders yet to come, the exciting things of tomorrow, are being sought and found in the research laboratories of today.

Research is a living thing to the people of Union Carbide—for it is the foundation upon which their work is built. The elements of the earth are a constant challenge to their insatiable curiosity and technical skills.

STUDENTS AND STUDENT ADVISORS: *Learn more about career opportunities with Union Carbide in* ALLOYS, CARBONS, CHEMICALS, GASES, *and* PLASTICS. *Write for "Products and Processes" booklet H-2.*

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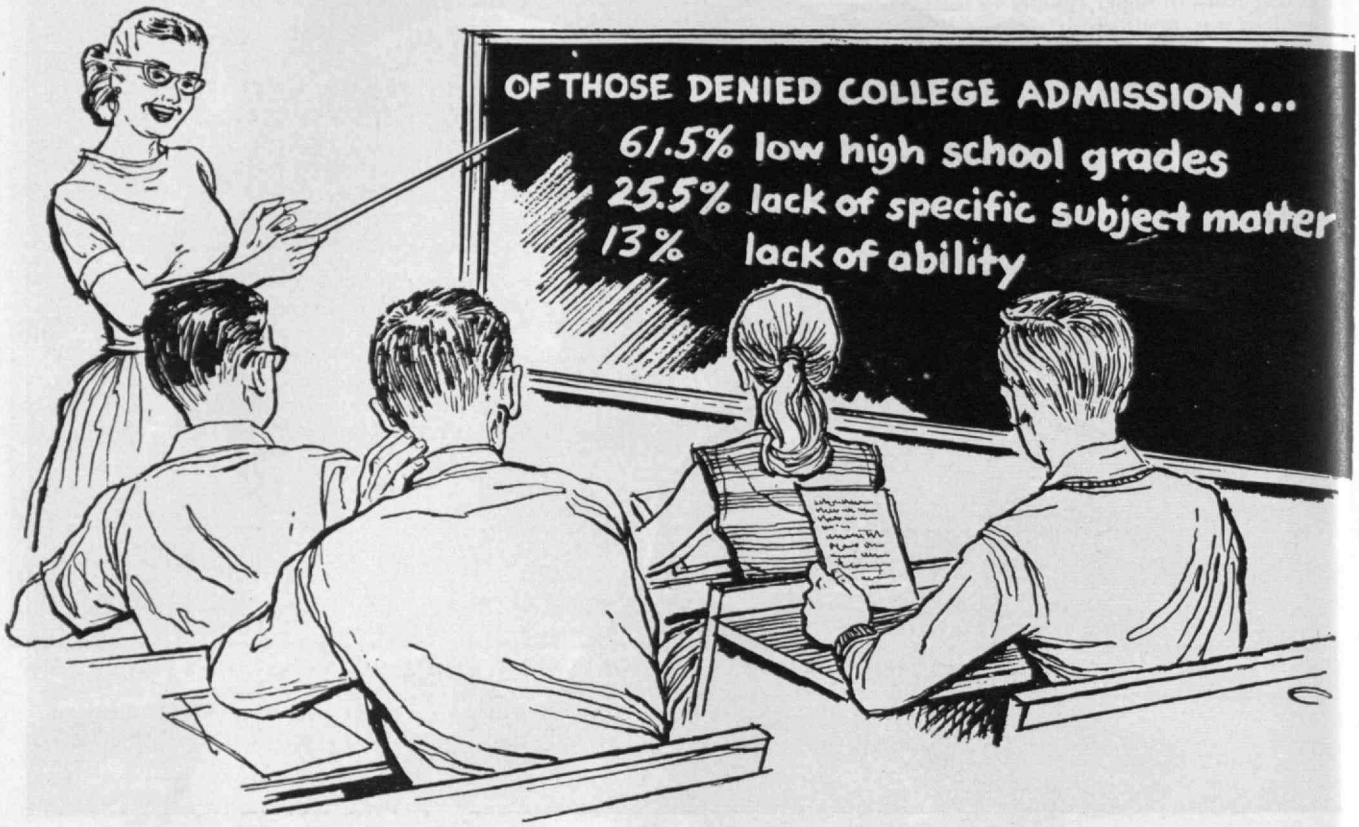
Can your child go to your college?



Every one of us has the hope that his son or daughter may be so well prepared that the admissions officer will say: "Your application is accepted. We will look forward to seeing you in the fall." But sometimes plans go amiss.

We at General Electric have for years been urging youth to aim high, work hard, master the basic subjects, and go on to college.

Recently, we sent a questionnaire to 100 college-admissions officers. We asked: "What are the reasons some high-school students are admitted and others rejected?" The 78 replies we received contained a great unanimity of opinion.

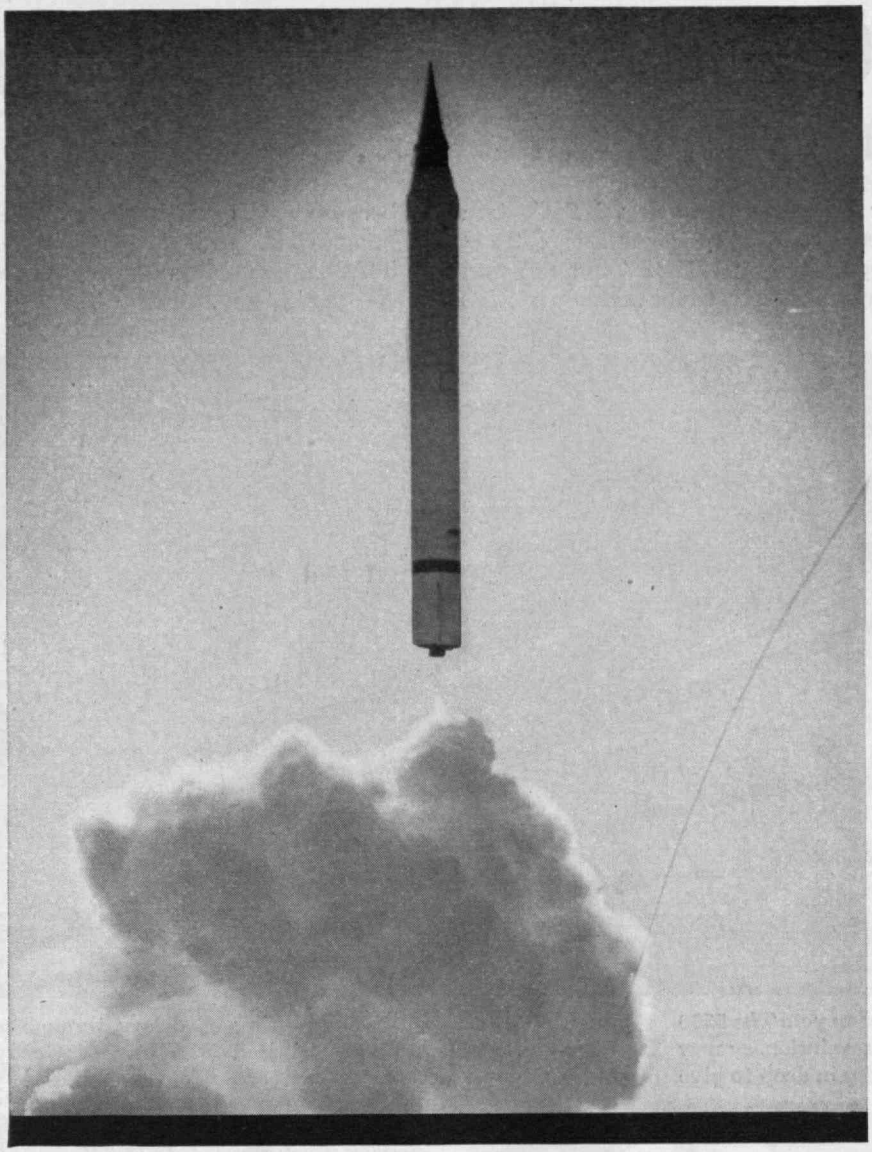
We have summarized those replies in a booklet, *Start Planning Now for Your Career;* the illustration on this page, taken from the booklet, gives a clue as to its content.

We believe that the alumnus can work for the best interests of his college by sending to that college young people prepared to receive a higher education.

We further believe that our summary of opinions of admissions officers is so persuasively compelling that the boy or girl who reads it must ask himself whether he is choosing his courses wisely and getting high enough marks.

Perhaps with this booklet in hand and supporting its thesis with your own experience, you can help persuade your child, or another child in whom you have an interest, to prepare against the day when an admissions officer will review his record. We invite you to write for a copy (or copies) to Dept. 2-119, General Electric Company, Schenectady, New York.

GENERAL ELECTRIC



ceiling: ∞
subject: **PROPULSION**

From Mach 2 speeds to photon physics... from jet propulsion to nuclear-powered flight... Martin propulsion engineering problems offer the widest range of challenge and opportunity in the aircraft industry today.

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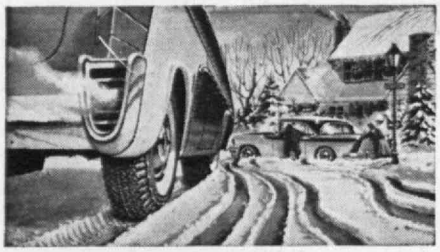
NEW GOODYEAR WINTER TIRE bites through snow... runs quietly on bare roads...lasts a season longer!

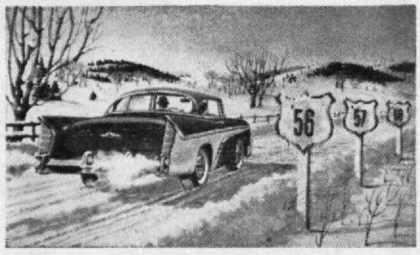
Now Goodyear brings you the *new* 3-T Custom Suburbanite. *New* because it has a revolutionary tread with wide, deep-digging "V-GRIP" notches and thousands of tiny traction teeth for better grip. *New* because it rolls quietly along cleared highways. *New* because it has more miles of wear built in. See the new 3-T Custom Suburbanite at your dealer's. Goodyear, Akron 16, Ohio.

Deep snow needn't stop you! The 5500 biting edges of the revolutionary new Suburbanite tread dig in deep to give you strong, straight-ahead pulling power—even on steep, snow-covered grades. To go places this winter without delays, through snow, mud or ice, put a pair of Goodyear's new Custom Suburbanites on your car.



When the going gets slippery, this new winter tire's fully "tractionized" tread claws into slick ice, hard-packed snow, gives up to 55% better traction.

High-fidelity tests proved that new Custom Suburbanites are much quieter than old-style winter tires. On dry roads you roll along quietly, restfully.



Months of extra wear! Pull through *several* winters safely and surely—3-T Cord body, new tread design and long-lived rubber mean more miles of wear.

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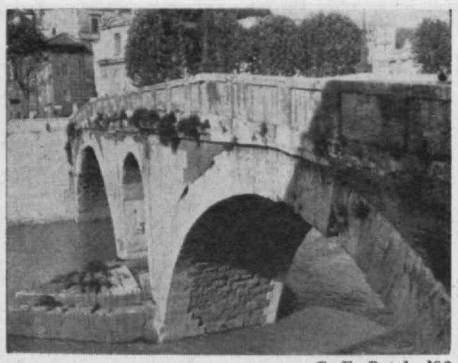
Look for this nearby Goodyear dealer sign for better tire values . . . better tire care . . . convenient credit terms

GOODYEAR

Suburbanite, T. M., The Goodyear Tire & Rubber Company, Akron, Ohio



C. E. Patch, '02

Ponte Fabricio, Rome

Technology Review

TITLE REGISTERED, U. S. PATENT OFFICE

Edited at the Massachusetts Institute of Technology

VOL. 59, NO. 2 DECEMBER, 1956

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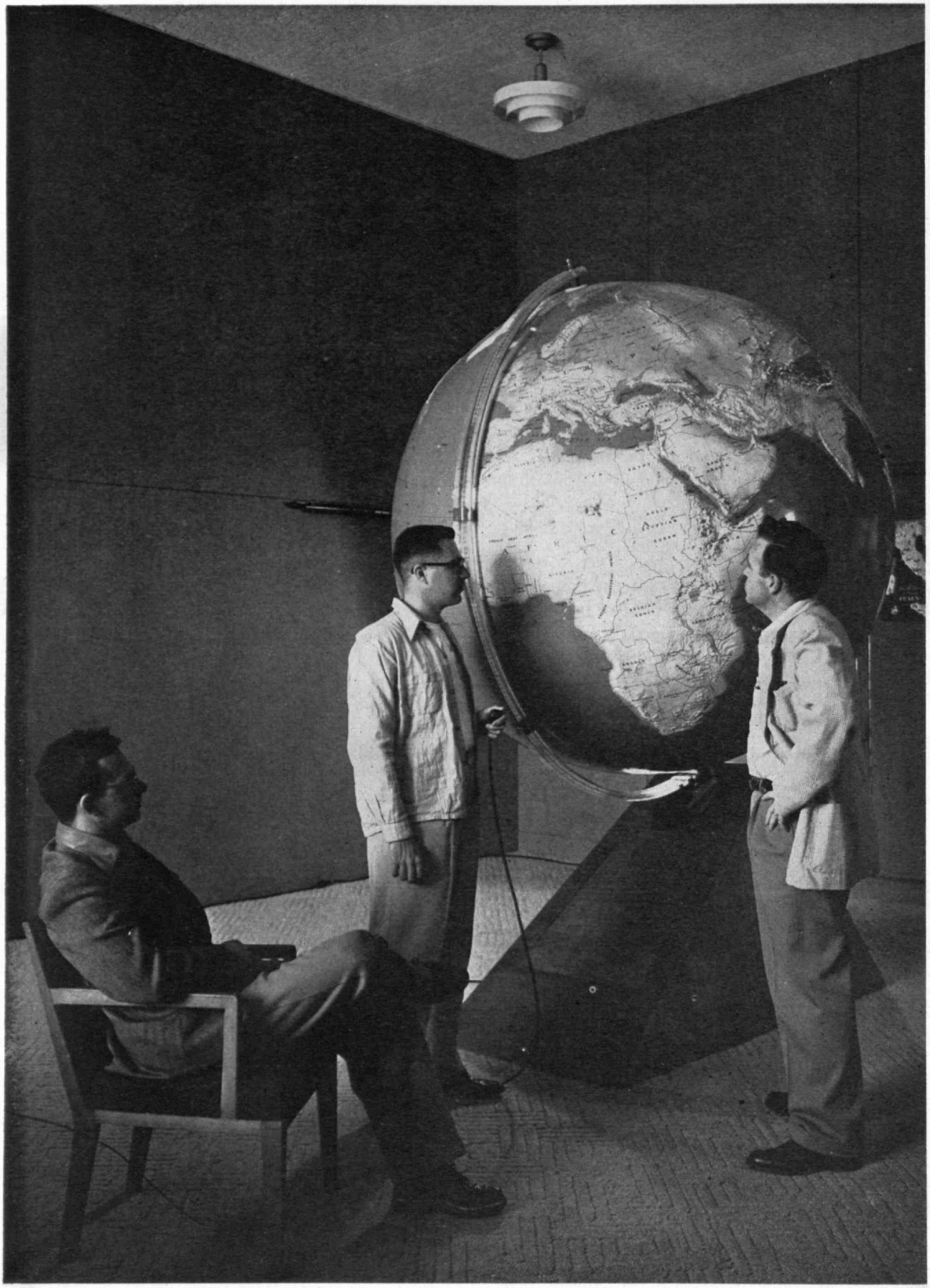


M.I.T. Photo

The World at Your Finger Tips

Technology students have excellent opportunity to follow world events through facilities of the Boston Stein Club Map Room in the Charles Hayden Memorial Library, which contains this huge orographical globe, a gift from Harry H. Young, '91

The Technology Review

VOL. 59, No. 2 DECEMBER, 1956

The Trend of Affairs

Nobel Prize in Physics

■ Three American physicists — including a Technology Alumnus — who worked together to develop the theory and practical application of transistors are recipients of the Nobel Prize in physics this year. They are John Bardeen of the University of Illinois, Walter H. Brattain of the Bell Telephone Laboratories, and William Shockley, '36, Director of the Shockley Laboratory of Beckman Instruments, Inc. All were members of the technical staff of the Bell Telephone Laboratories when they worked on developments for which the Nobel prize was awarded.

The physics award recognizes the swift advance of science and technology in the relatively new and highly important field of solid state physics. It emphasizes the importance of the tiny devices capable of performing virtually all functions of the versatile electron tube, such as is found in radio and television receivers.

The transistor, or "transfer resistor," is essentially a device for conducting electric current better in one direction than in the other. As such, it serves as a rectifier or detector; but it does much more than this. Because a current or voltage applied to input of the device may be made to appear in magnified form at its output, the transistor is able to function as an amplifier and also as an oscillator. In all of these functions it is the first competitor to the versatile electron tube which, incidentally, now has half a century of history.

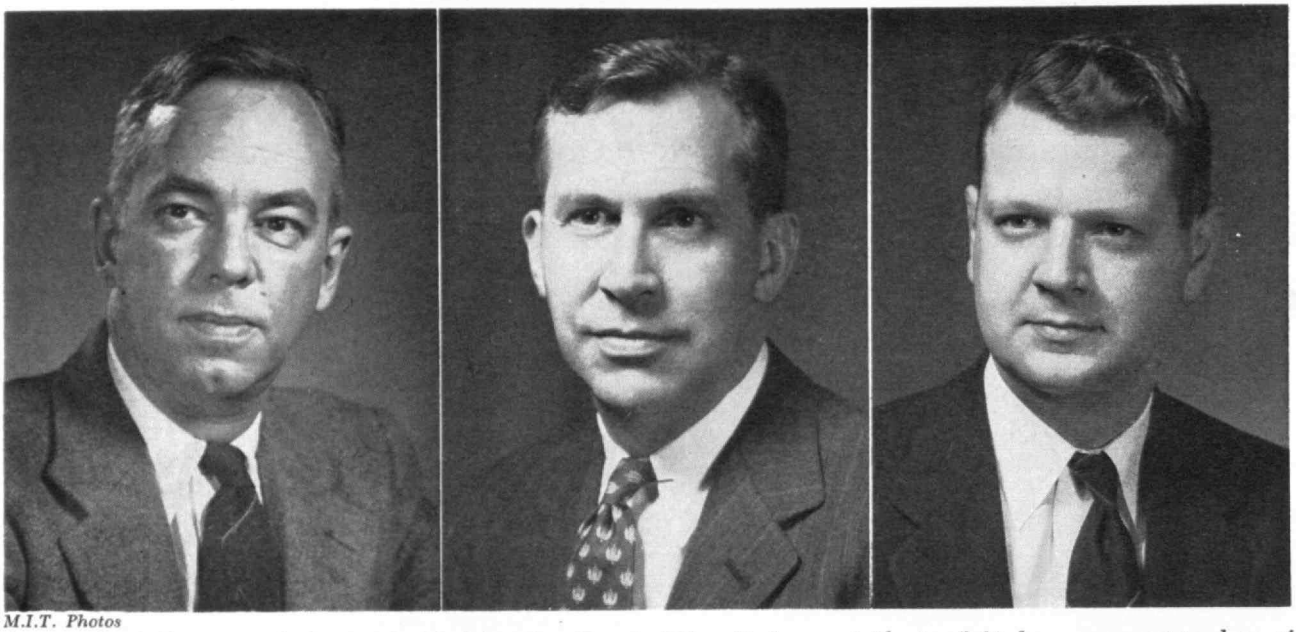
Transistors are highly efficient — operating from a few dry cells in most applications — very compact, extremely rugged, highly reliable in operation, and appear to have unlimited life if operated within their ratings and not subjected to high humidity or temperature. These properties make transistors of considerable value in communications equipment for military purposes, in hearing aids, and in large-scale computer machines where large numbers of electronic operations must be carried out quickly and reliably.

As director of transistor developments for the Bell Telephone Laboratories, Dr. Shockley has played a major role in developing the theory and practical application of these new electronic devices. He was born in London in 1910, and received the Ph.D. degree in physics from M.I.T. in 1936. He was a member of the technical staff of the Bell Telephone Laboratories from 1936 until 1955 when he resigned to become director of the Shockley Laboratory of Beckman Instruments, Inc. in Mountain View, Calif.

Dr. Shockley is author of *Electrons and Holes in Semiconductors with Applications to Transistor Electronics* published by Van Nostrand in 1950. He was elected a fellow of the Institute of Radio Engineers in 1954 and in 1952 received the Morris Liebmann Memorial Prize from the I.R.E. for his contributions to the theory and practical application of transistors. In January, 1953, he was awarded the Oliver E. Buckley Solid State Physics Prize for his important contribution to the advancement of knowledge in solid state physics. He was also awarded the Comstock Prize by the National Academy of Sciences in 1954.

Nick Lazarnick

William Shockley, '36, Walter H. Brattain, and John Bardeen (in usual order) who share the 1956 Nobel Prize in physics for development of the transistor.



M.I.T. Photos

As a result of changes in the Institute's Administration, Francis Bitter, Professor of Physics (left) *becomes associate dean of science, as mentioned on page 85; Carl F. Floe, '35, Professor of Metallurgy and Assistant Provost* (center), *has been named assistant chancellor; and Malcolm G. Kispert, 2-44* (right) *Executive Assistant to the President, has also been named assistant chancellor, as recorded below.*

Assistant Chancellors

■ Appointment of Carl F. Floe, '35, and of Malcolm G. Kispert, 2–44, as Assistant Chancellors of the Institute was recently announced by Julius A. Stratton, '23, Chancellor.

Dr. Floe is professor of metallurgy and since 1952 has served also as assistant provost. Mr. Kispert, a graduate of the Course in Aeronautical Engineering, joined the staff of the President in 1946 to assist the late Karl T. Compton, and since 1952 has been executive assistant to James R. Killian, Jr., '26, President.

In announcing these new appointments, Dr. Stratton said:

The establishment of the assistant chancellorships marks another step in our effort to keep pace administratively with the rapid growth and expanding obligations of the Institute. Both Dr. Floe and Mr. Kispert have had long experience in academic and administrative affairs at M.I.T. They have gained through this association an extraordinarily wide and intimate acquaintance with our Faculty and staff, and enjoy the esteem of their colleagues for unfailing skill and understanding in dealing with Institute affairs. I feel most fortunate to have their support in fulfilling the duties of my office. The assistant chancellors will share with the deans of the Schools and myself the task of carrying on the academic affairs of the Institute.

Dr. Floe will represent me on all matters relating to research and will provide the necessary co-ordination with the vice-president for Industrial and Govermental Relations, and with the Division of Sponsored Research. I shall turn to him frequently on matters pertaining to the professional schools and special projects such as new laboratories and other facilities. In addition, Dr. Floe will carry the administrative responsibility of this office for the Summer Session and the Library.

Mr. Kispert will assume management of the budget of the Institute. In this he will work closely with the vice-president and treasurer to assure the most prompt and effective use of these funds in the interests of the academic departments. Because of his experience and familiarity with student life at the Institute, I shall ask Mr. Kispert to provide the necessary liaison with the dean of students to effect proper administrative support of student affairs. He will also handle the administrative responsibility of the Chancellor's Office for the Registrar's Office and the Medical Department.

Born in Dawson, in the Klondike Region of the Yukon Territory, Dr. Floe received degrees of bachelor of science and master of science at Washington State College in 1930 and 1932. M.I.T. awarded him the degree of doctor of science in metallurgy in 1935. He served as an instructor in metallurgy at Washington State College from 1930 to 1934 and as assistant professor from 1935 to 1936. In 1936 he joined the faculty of the University of Notre Dame and three years later returned to M.I.T. He became an associate professor in the Department of Metallurgy in 1942, executive officer of the Department in 1943, and a full professor in 1950.

Dr. Floe is a member of Sigma Xi, Tau Beta Pi, Sigma Tau, Alpha Chi Sigma, the American Institute of Mining and Metallurgical Engineers, the American Society for Metals, the Iron and Steel Institute in London, and the Institute of Metals in London. He is also a member of the University Club of New York and St. Botolph Club of Boston. He is married to the former Miss Beverly Brooks of Boston and they have four children. Their home is in Belmont.

Mr. Kispert, the son of Mr. and Mrs. Edwin P. Kispert of Touisset, Mass., was born in Fall River in 1923, attended Durfee High School in that city and entered M.I.T. in 1940. He enlisted in the United States Navy in 1942, continuing his studies in uniform under the V-12 unit at M.I.T., and received the degree of bachelor of science in February, 1944. He then served as an aviation engineering officer in the Pacific. From January to September, 1946, he took

graduate work in Aeronautical Engineering at M.I.T. and was awarded the degree of master of science in Aeronautical Engineering.

Mr. Kispert is a member of the Institute of the Aeronautical Sciences, Tau Beta Pi, and of the St. Botolph Club of Boston. He is a director of the Harvard Co-operative Society. He was married to Miss Janice McCreery of Fall River in 1944. They have four children, and their home is in Waban, Mass.

Executive Assistant

■ James R. Killian, Jr., '26, President of the Institute, has announced the appointment of James G. Kelso, a member of the Faculty, as his executive assistant. Dr. Kelso succeeds Malcolm G. Kispert, 2–44, recently appointed Assistant Chancellor. In announcing this appointment, Dr. Killian said:

> Because of his broad experience in the academic field and in dealing with students, with industry, with government and with research agencies, Dr. Kelso is particularly fitted to assist in the multiplicity of matters coming up in the President's Office. His service to the Institute has been very important and I shall continue to rely upon him.

A native of Worcester, N.Y., Dr. Kelso attended Dartmouth College and was awarded A.M. and Ph.D. degrees by Harvard University for graduate study in American history. He served as a paratrooper during World War II, entering the Army as a private in 1941 and being discharged in 1946 as a lieutenant colonel. He made jumps in Sicily, Normandy, Holland, and Germany, holds eight battle stars, and was awarded the silver star for gallantry in action. Portrait illustration of Dr. Kelso appears on page 86.

Dr. Kelso joined the M.I.T. Faculty, to teach history, in 1948 and holds the rank of assistant professor. He became associate placement officer in 1955, taking the responsibility for guidance of industry and of students in the difficult field of attempting to supply engineers and scientists to meet the crucial demand. Last July he became placement officer, in charge of an office which took over the responsibility for placement of Alumni as well as students.

Dr. Kelso is married to the former Miss Dorothy Honiss of West Hartford, Conn. They live in Winchester and have two children.

Associate Dean of Science

■ Appointment of Professor Francis Bitter as Associate Dean of the School of Science at the Institute was announced in October by George R. Harrison, Dean of the School. Professor Bitter is internationally noted for his application of modern physics and atomic structure to the understanding of the mechanical and magnetic properties of metals, and to the unraveling of nuclear structure by means of spectroscopy. In making the announcement, Dean Harrison said:

> The School of Science is especially fortunate in obtaining as its associate dean a person of Professor Bitter's talents and experience in the improvement of undergraduate education, as well as in the proper balancing of this in relation to graduate education and to research. He has in the past few years made signal contributions to the freshman and sophomore teaching of physics at the Institute. With the science department heads and others who are working continually on the improvement of educational methods, Dean Bitter can be expected to make further outstanding contributions.

Dr. Bitter came to M.I.T. as a member of the teaching staff in 1934, and has been a full professor in the Physics Department since 1951. He is the son of the distinguished American artist, the late Karl Bitter. His wife, Ratan Devi, a singer, is well known in musical circles for her interpretation of the music and spirit of India.

Born in Weehawken, N.J., on July 22, 1902, Dr. Bitter attended Columbia University, where he was graduated in 1924 with the degree of bachelor of science. After further study, including a year in Berlin, he was awarded the Ph.D. degree by Columbia in 1928. After two more years of study and research, in which he specialized in the theory of magnetism at Princeton University and California Institute of Technology, he joined the staff of the Research Department of Westinghouse Electric Company.

Dean and Mrs. Bitter make their home at 44 Gerry's Landing in Cambridge.

On the Horizon

January 30, 1957 — Midwinter Meeting of the Alumni Association. Walker Memorial, M.I.T. Campus. (Dinner 6:00 P.M. Reservations should be made through Alumni Office, Room 1–280, M.I.T.)

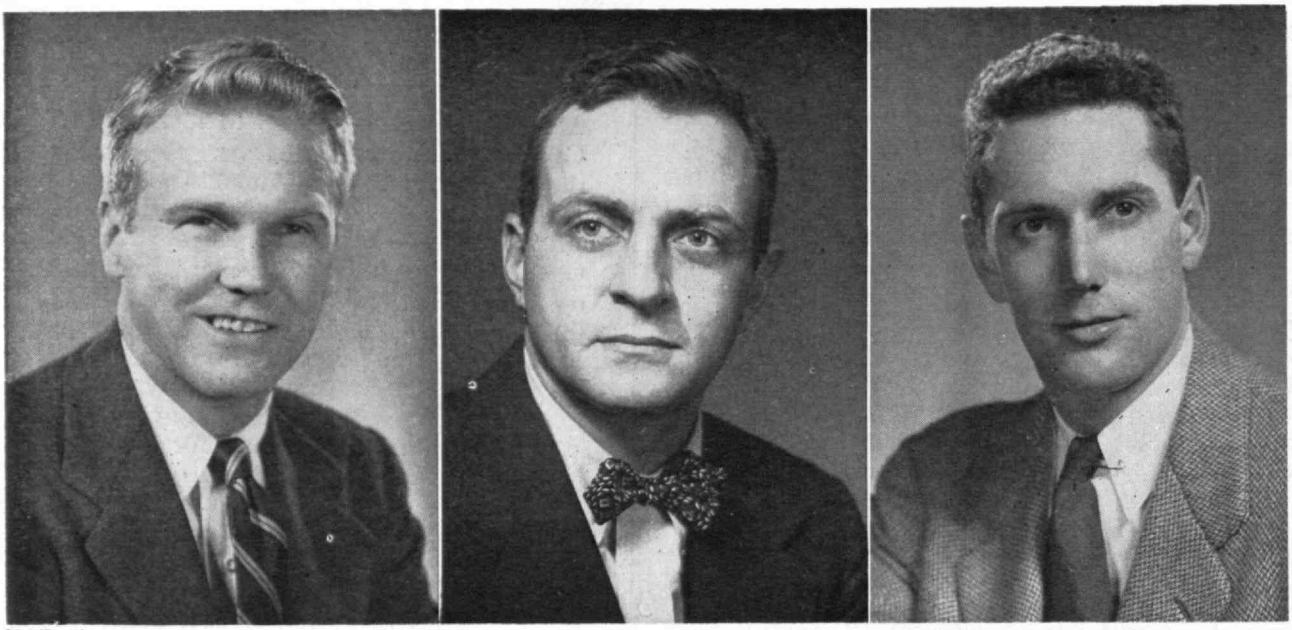
February 2, 1957 — 9th M.I.T. Alumni Regional Conference, Tulsa, Okla. Theme: "Conference on Engineering and Science — M.I.T.'s Salute to Oklahoma's Golden Jubilee." **Speakers:** President Killian; Deans E. P. Brooks, '17, and George R. Harrison; Professors Warren K. Lewis, '05, Robert R. Shrock, John G. Trump, '33, and Jerrold R. Zacharias. (For further information, consult Barrett B. Russell, 3d, '43, E. I. du Pont de Nemours and Company, 1811 South Baltimore Avenue, Tulsa 19, Okla.)

February 16, 1957 — 10th M.I.T. Alumni Regional Conference, Chicago, Ill. **Speakers:** President Killian; Deans E. P. Brooks, '17, and Pietro Belluschi; Professors Walter G. Whitman, '17, and John E. Arnold, '40. (For further information, consult John R. Kirkpatrick, '48, Arthur D. Little, Inc., 9 South Clinton Street, Chicago 6, Ill.)

February 22–25, 1957 — "M.I.T. Week End in Havana," M.I.T. Club of Cuba. (For reservations, consult Antonio Helier Rodríguez, '21, Concordia 61, Havana, Cuba.)

March 14–16, 1957 — 9th Annual Fiesta, M.I.T. Club of Mexico, Mexico City, D.F. (For reservations consult Clarence M. Cornish, '24, Margaritas 139, Villa Obregon, Mexico 20, D.F., Mexico.)

June 10, 1957 — 23d Alumni Day, 1957, M.I.T. Campus in Cambridge.



M.I.T. Photos

Promotions have recently been announced for: James G. Kelso (left) *who leaves his post as placement officer to become executive assistant to President Killian; Joe Jefferson* (center) *who becomes placement officer; and W. Van Alan Clark, Jr., '42* (right) *recently named assistant dean of the School of Industrial Management.*

Assistant Dean

■ Appointment of Associate Professor William Van Alan Clark, Jr., '42, as Assistant Dean of the School of Industrial Management at the Institute was announced this fall by Dean E. P. Brooks, '17.

Dean Clark received his B.A. from Williams College in 1941 and his master's degree in Business and Engineering Administration at M.I.T. in 1942. He served as gunnery and torpedo officer in the U.S. Navy from 1942 to 1946. He has been a member of the Faculty of M.I.T. since 1946, being first appointed as an instructor in the Department of Business and Engineering Administration. He became an assistant professor in 1947 and in 1953 was made an associate professor.

In his new post, Dean Clark will continue as chairman of the Undergraduate Committee of the School of Industrial Management and will assist the Dean in the development programs of the School.

Dean Clark has been active in the Society for the Advancement of Management and the American Material Handling Society and is a director of a number of companies. He has taken active part in civic affairs in his home community of Lincoln, Mass. He and Mrs. Clark, the former Mary Harris, are the parents of five children.

Placement Office

■ Consolidation of all M.I.T. placement activities in a single office was announced during the summer by Admiral Edward L. Cochrane, '20, M.I.T. Vice-president for Industrial and Governmental Relations.

Joe Jefferson, formerly Assistant Director of Student Aid, has been appointed placement officer in charge of the new office. He succeeds James G. Kelso who has been appointed executive assistant to President Killian. Mrs. Evelyn B. Yates has been named associate placement officer, and Mrs. Mary D. Howe, assistant placement officer. Mrs. Yates and Mrs. Howe have served with distinction in important posts in the Alumni Placement Office.

"The purpose of the consolidated office," said Admiral Cochrane, "is to give better continuity, from graduation to retirement, to our services in placement planning for M.I.T. men. The new consolidated office should also help M.I.T. serve the interests of industry and government more effectively."

Student and alumni placement at M.I.T. were formerly conducted in two separate offices under the direction of the late Nathaniel McL. Sage, '13, who until his death last May had served as both placement officer and director of the Office of Sponsored Research at M.I.T.

Admiral Cochrane reported that for the first time the number of companies and governmental agencies that sent recruiting teams to M.I.T. last year exceeded 800.

Mr. Jefferson, the new placement officer, was born in New York and was graduated from Columbia University in 1947. He served in the business training program of General Electric Company, was assistant director of the Ottilie Home for Children in Jamaica, N.Y., was director of the Big Brother Camp in New York, and then was a staff assistant of the College Entrance Examination Board in New York. He came to M.I.T. in 1954 as assistant to the Director of Admissions and became assistant director of student aid later that year. Mr. Jefferson and his wife, the former Miss Shirley Cushman of Auburn, Maine, live in Lexington. They have three children.

Mrs. Yates, who is a native of Phillips, Maine, grew up in Berlin, N.H. A graduate of Wellesley College, she worked in the Placement Office there before becoming alumni placement officer at M.I.T. in 1942.

Mrs. Howe was born in Dorchester, Mass., and was educated in the Boston public schools. She took her A.B. and A.M. degrees at Radcliffe and has been assistant alumni placement officer at M.I.T. since 1954.

Twenty-five Years Ago This Month . . .

■ Despite the ever-deepening effects of the great depression,* the Institute approached the Christmas season of 1931 heartened by the fiscal report of Treasurer Everett Morss, '85, covering 1930–1931, and the official registration figures of Registrar Joseph C. MacKinnon, '13, for 1931–1932.

Mr. Morss reported that on the previous June 30 the book values of the Institute's "land, buildings, and equipment" and its "endowment funds" were recorded, respectively, as being $14,682,737 and $33,821,588. Moreover, during 1930–1931 net income had passed the two and three-quarter million mark for the first time, being $2,880,131, while net expense had exceeded net income only by $37,907.

Mr. MacKinnon's census, made as of November 1, was equally reassuring in that he found the total student body to number 3,188, only 21 less than a year before. There was to be noted a welcome increase of 49 (10 per cent) in the number of graduate students compared with November, 1930, but there was also ominous cause for concern because of a decrease of 107 (14.7 per cent) in the number of entering freshmen. There were only 630 entering as the Class of 1935 compared with 737 who had started the year before as the Class of 1934.

. . . Answers received from 1,344 Alumni replying to a questionnaire addressed to approximately 2,500 readers of The Review disclosed that their average salary was $7,073 and their average annual income from investments was $5,836. Of the 1,344 Alumni, 654 (49 per cent) who were under 36 years of age reported a salary average of $4,001; 513 (37 per cent) aged 36 to 55 reported $10,394; and 177 (14 per cent) aged over 55 reported $11,751.

. . . Congratulations were being extended to Bradley Stoughton, '96, and Samuel G. Porter, '03, upon their elections to the presidencies of the American Electrochemical Society and the Engineering Institute of Canada; and to two members of the Class of 1916, Thomas D'A. Brophy and Robert E. Wilson, upon their becoming, respectively, vice-president of Kenyon and Eckhardt and a director of the Standard Oil Company of Indiana.

. . . It was reported in The Review for December, 1931, that "the new underpass is now nearing completion at the juncture of Memorial Drive and Massachusetts Avenue."

* It was a time when notice was given in The Review's advertising columns that the 23 hotels comprising the United chain offered "room rates reduced 10% to 30%" and the Shelton in New York quoted "$4.00 per day double with bath"; when a "delightful cabin" to Europe on the S.S. *Leviathan* of the U.S. Lines, current queenship of the Atlantic, was open at "$122.50 (up) Tourist Class"; and when one could buy a tuxedo as low as $45 at the Coop, or an ordinary suit as low as $35!

M.I.T. Photo

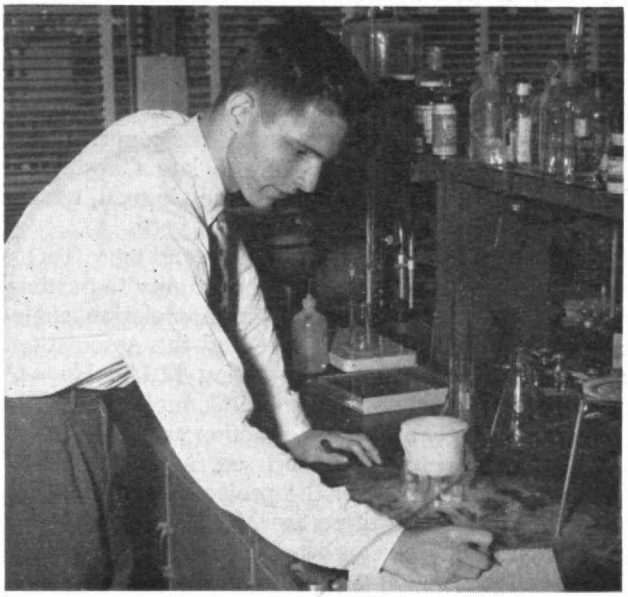
The George Eastman Research Laboratories (Building 6) under construction 25 years ago during the autumn of 1931. At the left: the recently completed Spectroscopic Laboratory, in its specifications so vibration-free "that a large metal mirror suspended at the end of a lever 35 feet long is not expected to quiver so much as one-25,000th of an inch." At the upper right: the running track subsequently removed to the west of Massachusetts Avenue to make room for the Alumni Pool in 1940.

Prize for Straight "A"

■ A young Connecticut student, who was the only freshman to receive a straight "A" average at the Institute last year, received M.I.T.'s first Borden Freshman prize for scholarly achievement this fall. He is Hayward R. Alker, Jr., '59, of Greenwich, Conn., shown at the right, who was also the top student each of the three years he attended the Brunswick School in Greenwich. A letter man in baseball at Brunswick, he was also active in debating and a member of the Glee Club.

The Borden Freshman Prize which Alker received is to be awarded annually at M.I.T. and is sponsored by the Borden Company Foundation "to emphasize the importance of good scholarship." It was presented by Charles N. Satterfield, '43, Associate Professor of Chemical Engineering and chairman of the Faculty's Freshman Advisory Council, at the first all-student convocation of the current year on September 26.

M I T. Photo



Season's First Council Meeting

■ The 319th meeting of the Alumni Council (the first of the current school year) was held on the evening of Monday, October 29, at the M.I.T. Faculty Club in the Sloan Building. Theodore T. Miller, '22, President of the Alumni Association, presided at this meeting which was attended by 161 members and guests. Each Council member was presented with a folder containing an advance copy of President Killian's Annual Report to the Corporation, a report on the Alumni Fund Conference (summarized on pages 24 and 25 of the November, 1956, issue of The Review), and a mimeographed roster of the proposed membership of the Alumni Council for the coming year.

Items of business at this dinner meeting included a report by Edwin D. Ryer, '20, chairman of the Committee on Audit and Budget, that the Association's accounts had been examined during the summer and the audit had been approved by his committee. Avery H. Stanton, '25, chairman of the Alumni Fund Board, reported on the Alumni Fund Conference held at M.I.T. on September 7 and 8, and expressed the hope that this year the Council would be the first alumni group to obtain 100 per cent participation in the Alumni Fund.

As Secretary-Treasurer of the Association, Donald P. Severance, '38, reported that nine changes in class affiliation had recently been approved; that since June 15, visits to 30 M.I.T. Clubs have been made by 17 members of the M.I.T. staff and officers of the Alumni Association; that the Association's budget for the fiscal year 1955–1956 was $67,053 and that income from The Review was sufficient to cover a deficit of $1,619, turn over $5,000 to the Alumni Fund, and add an additional amount to the Alumni Reserve Fund; that net cost to the Alumni Association for the 1956 Alumni Day was $3,866.71 compared to $3,524 in 1955 and $5,140 in 1954. Mr. Severance also submitted for vote of the Council the names of Class Representatives, Club Representatives, and new Associates to serve on the Council, and personnel of a committee on observance of the Institute's 100th anniversary. He also submitted names of 30 new nominations and 20 renominations of Alumni to serve on Visiting Committees. In accepting the Secretary's report, all committee personnel were elected for the specified terms of office by the Council.

Ernest C. Crocker, '14, presented the report of the Committee on Resolutions for the late Chester A. Corney, '14, a former member of the Council, which report was accepted by a silent rising vote.

President Miller forecast that more and more Technology Alumni would have an opportunity to participate in worth-while projects of the Association, some of direct benefit to the Institute and the Association and others on a scale transcending M.I.T. He expressed the hope that the Alumni Council would become increasingly a Council of action and stated that Council members would soon see, initiated in the Cambridge area, some of the projects being encouraged in areas where there are M.I.T. Clubs. At the conclusion of these remarks, President Miller called

(*Concluded on page 116*)

Clifford M. Witcher: 1914-1956

■ Clifford M. Witcher, Director of the Sensory Aids Project of the Research Laboratory of Electronics, died at his home in Belmont, Mass., on October 6. He was 42 years old. Dr. Witcher, blind since infancy and long a devoted research scientist working on aids for the blind, had just completed his latest invention, an electronic Audible Vision Probe. The first 50 probes were recently manufactured and delivered to the American Foundation for the Blind in New York for distribution and testing. The light-sensitive probe, of fountain-pen size, generates to a hearing-aid type earphone a tone which varies in pitch with the degree of light and shade encountered by the instrument. This device, which is as effective for reading electrical meters or operating switchboards as for locating doors and windows or determining margins and letterheads on stationery, was perfected by Dr. Witcher during three of his five years on the M.I.T. research staff.

A native of Atlanta, Georgia, Dr. Witcher earned the degrees of bachelor of science at Georgia Institute of Technology, master of arts at Emory University, and doctor of philosophy at Columbia University. Before his M.I.T. appointment, he conducted radar research at the Bell Telephone Laboratories from 1943–1946, sensory aid research for the Haskins Laboratories from 1946–1947, and general research on appliances for the blind for the American Foundation for the Blind from 1947–1951. In addition to his "Symposium on Blindness," Dr. Witcher was the author of numerous technical articles and papers.

Choral Society Scores European Success

■ The M.I.T. Choral Society stormed the bastions of great music in Germany this summer, and ovations were almost universal. There were some catcalls too, and the 62 singers are still laughing about this.

According to Billy H. Burdine, '52, President of the Society, the one time during the 21 day tour when the audience did not respond to a concert with unanimous acclaim was at the Festival of Contemporary Music at Darmstadt, which happens to be the location of a summer school of extreme musical modernists.

Now Stravinsky is generally regarded as about as modern as any composer. His "Mass," which the M.I.T. singers presented at Darmstadt, was written only eight years ago. But a few young composers and students in the audience — members of the extreme 12-tone school of modern composition and in violent disagreement with Stravinsky — began hooting and whistling as soon as the "Mass" had been concluded.

The rest of the audience and the Darmstadt press were very indignant about this discourteous demonstration. The touring group from M.I.T. thought it was funny.

But to most Germans, to whom Haydn and Mozart are almost sacred, the Choral Society sang Mozart and Haydn, as well as Stravinsky and Honegger, with great musicianship.

(*Continued on page 108*)

Individuals Noteworthy

■ Featured in the autumn news have been the 21 promotions, elections, or appointments cited below:

Henry R. Kurth, '21, as Vice-president, Boston Edison Company . . . *Bernard L. Chapin, '23,* as President, New England Carbide Tool Company, Inc. . . . *Walter F. Munford, '23,* as Assistant Executive Vice-president, United States Steel Corporation;

James H. Doolittle, '23, as chairman, National Advisory Committee for Aeronautics (succeeding Jerome C. Hunsaker, '12, who served as chairman 1941–1956) . . . *Antonio Rosado, Jr., '24,* as President, Cuban Telephone Company . . . *Marshall N. Waterman, '24,* as President, Illuminating Engineering Society;

Bernard E. Groenewold, '25, as President, Exploration Drilling and Oil Company, Tulsa, Okla. . . . *Arthur J. Connell, '27,* as Vice-president, Stone and Webster Engineering Corporation . . . *José D. Domínguez, '27,* as President, Puerto Rico Telephone Company;

Joseph K. Roberts, '28, as Vice-president in Charge of Research and Development, Standard Oil Company of Indiana . . . *Bruce E. Sherrill, '28,* as President, Daugherty Company, Inc., Youngstown, Ohio . . . *Allan Intriligator, '30,* as President, Mandel Brothers, Chicago;

Joseph R. Stevens, '30, as Executive Vice-president, J. T. Baker Chemical Company . . . *Robert C. Gunness, '34,* as Executive Vice-president, Standard Oil Company of Indiana . . . *W. Gardner Barker, '37,* as Vice-president, Thomas J. Lipton, Inc.;

Edward C. Peterson, '37, as Vice-president, Rolling Mill Equipment Division, Birdsboro Steel Foundry and Machine Company . . . *Nicholas H. Wheless, Jr., '38,* as President, Wheless Drilling Company, Shreveport, La. . . . *Thomas F. Creamer, '40,* as Vice-president, The First National City Bank of New York;

Howard O. McMahon, '41, as Vice-president, Arthur D. Little, Inc. . . . *George J. Schwartz, '42,* as Vice-president and General Manager, Doelcam Division, Minneapolis-Honeywell Regulator Company . . . *Dr. James M. Faulkner,* Institute Medical Director, as a member of the National Board of Medical Examiners.

■ Special honors came these past months to *William Shockley, '36* (*see* page 83) and the 11 other Alumni enumerated below:

To *Donald W. Douglas, '14,* the 1956 annual award of the National Defense Transportation Association to "the person who has made the most outstanding contribution to military transportation in the preceding year" . . . *Kenneth E. Bell, '17,* the Order of Cedars, Officer Grade, by the Government of Lebanon . . . *Barnett F. Dodge, '17,* an honorary doctorate of science, by Worcester Polytechnic Institute;

To *Walter J. Hamburger, '21,* the Olney Medal, by the American Association of Textile Chemists and Colorists, awarded annually "to a citizen of the United States, for outstanding achievement in the field of textile chemistry, including the development of chemical agents or chemical processes used in the manufacture of textiles, or methods for their evaluation" . . . *Frederick S. Blackall, Jr., '22,* the Howard Coonley Medal, by the American Standards Association . . . *Oscar H. Horovitz, '22,* his 22d prize won in national or international cinema competitions, for his *Belo Horizonte,* selected as one of the best 10 amateur films in the 1956 International Cinema Competition;

To *Samuel I. Zack, '22,* the James Laurie Prize, by the American Society of Civil Engineers . . . *John E. Burchard, '23,* an honorary doctorate of architecture, by the University of Michigan . . . *Frederick E. Terman, '24,* its first Member-for-Life Medal, by the American Institute of Electrical Engineers . . . *Clarence Renshaw, Jr., '32,* a second Legion of Merit Medal with Oak Leaf Cluster;

To *William A. Baker, '34,* for being naval architect of the second *Mayflower* – the historically accurate full-scale replica of its Seventeenth Century predecessor – now fitting-out at the Stuart Upham shipyards of Brixham, England, from whence it is destined to sail next April on a two-months' maiden voyage to its permanent home port in the United States.

M.I.T. Photo

In addition to President and Mrs. Killian, those at the christening of the new shell included (left to right): Carl A. Boedecker, '58, Frank J. Bielsik, '58, William C. Bowman, '57, Irving L. Weinman, '59, Paul H. Rothschild, '58, Jack R. L'Hommedieu, '57, William N. Latham, '58, Walter W. Wiechmann, '58, and H. Richard Blieden, '57.

"The Liz"

■ A new Technology racing shell was launched in the Charles River after christening ceremonies at the Tech Boathouse on October 18. The new shell comes to the M.I.T. crew as a result of literary efforts exhibited by James R. Killian, Jr., '26, President. As a result of an article in *LIFE* magazine last spring, Dr. Killian received a check which he promptly turned over to the M.I.T. Athletic Association.

In accepting the check on behalf of the Athletic Association, M.I.T. Athletic Director Richard L. Balch stated:

"The M.I.T.A.A. decided to use it for an eight-oared crew shell. It will be named in honor of the president's wife, Mrs. Elizabeth Parks Killian."

After appropriate christening ceremonies by President Killian, the new shell which has been nicknamed "The Liz" (as can probably be seen on the illustration above) was launched about sunset on October 18.

Regional Fund Director

■ The appointment of Joseph E. Conrad to be Regional Director of the Alumni Fund at the Institute was recently announced by Avery H. Stanton, '25, chairman of the Alumni Fund Board.

Mr. Stanton explained that in this new assignment Mr. Conrad will assist Henry B. Kane, '24, Director of the Alumni Fund, in developing a regional organization to supplement the long-standing class organizations for reaching M.I.T. Alumni in behalf of the Fund.

"We are confident that this broadened activity in the M.I.T. Alumni Fund headquarters will make possible still further increases in the Fund's effectiveness in the coming years," Mr. Stanton said in making the announcement. He pointed out that M.I.T.'s Alumni Fund, which last year received contributions of over $576,000, is now the seventh largest Alumni Fund in the United States.

Mr. Conrad attended the public schools of Middletown, Ohio, and is a graduate in business administration from the Ohio State University (1952) where he was a member of Phi Delta Theta fraternity.

After his graduation in 1952, Mr. Conrad became field secretary of the Ohio State University Alumni Association. He was appointed executive secretary of the M.I.T. Club of New York in March, 1955, and in this capacity he had principal responsibility for organizing the Club's new permanent quarters in the Hotel Chatham.

M.I.T. Television Director

■ Appointment of Volta Torrey, former editor of *Popular Science Monthly,* as director of television for M.I.T., was announced recently by Francis E. Wylie, Director of Public Relations. Mr. Torrey will have charge of M.I.T. programs, such as "The Science Reporter," on WGBH-TV and other Institute activities in television, radio, and motion pictures.

Former president of the National Association of Science Writers and a member of the Aviation Writers Association, Mr. Torrey has written extensively for newspapers and magazines, has covered many events, such as the Bikini and Las Vegas atomic bomb tests, and helped prepare the report of the U.S. Strategic Bombing Survey. He has taught science writing and magazine editing at New York University.

A native of Eddyville, Iowa, Mr. Torrey is a graduate of the University of Nebraska and did graduate work at the University of Chicago. He was a Nieman fellow at Harvard University in 1939–1940.

Mr. Torrey served as assistant telegraph editor of the Chicago *Tribune,* night editor and Sunday editor of the Omaha *World-Tribune,* copyreader for the New York *Herald-Tribune,* news review editor of the Associated Press, and assistant managing editor of *PM.*

In 1945 Mr. Torrey went to *Popular Science* as an associate editor and became managing editor in 1946 and editor in 1951, serving in that capacity until recently. He has been a contributor to *Nation's Business, Physics Today, This week,* and other periodicals.

VISITING COMMITTEE REPORTS ON . . .

Mechanical Engineering

■ Members of the Visiting Committee on the Department of Mechanical Engineering* met on December 12, 1955, in the Edward F. Miller Room at the Institute with: James R. Killian, Jr., '26, President; Julius A. Stratton, '23, and Edward L. Cochrane, '20, Vice-presidents; C. Richard Soderberg, '20, Dean; and Professor Jacob P. Den Hartog. Unfortunately, Lewis K. Sillcox and Max L. Waterman, '13, were unable to attend this session which devoted its primary attention to the teaching and research activities in the field of power. During the morning session, members of the Committee heard presentations by members of the Department of Mechanical Engineering and visited laboratories.

Although Mechanical Engineering remains the second largest Department at M.I.T., freshman enrollment for the year 1955–1956 was down by 10 per cent, despite continuing urgent need for well-trained mechanical engineers. The Committee encourages efforts to increase undergraduate enrollment in the Department.

In discussing the curriculum for Course II, opinion appeared unanimous that the focus of the educational program should be on the needs several years hence

(*Continued on page 102*)

*Members of this Committee for 1955–56 were: Walter J. Beadle, '17, chairman; Redfield Proctor, '02, Max L. Waterman, '13, Charles A. Chayne, '19, George H. Burt, '20, Herbert G. Fales, '20, John F. Hennessy, '24, Jess H. Davis, Lewis K. Sillcox, and Glen B. Warren.

Metallurgy

■ Satisfaction with the Department's operations and objectives was expressed by members of the Visiting Committee on the Department of Metallurgy* who met at the Given Room in the Metals Processing Laboratory on December 6, 1955. Present at this meeting were: Irving W. Wilson, '11, chairman, Walter F. Munford, '23, Walter Crafts, '26, Charles B. Sawyer, '17, and George Roberts of the Committee, as well as Professors John Wulff, Morris Cohen, '33, Frederick H. Norton, '18, John T. Norton, '18, Antoine M. Gaudin, and John Chipman.

A review of the undergraduate curriculum was the major purpose of the meeting, and by way of preparation for this review, Professor Wulff discussed the necessity for attracting more students to Metallurgy. To accommodate such students, a flexible curriculum is required and one to which the student from other courses or colleges can transfer without major penalty or loss of time. It was pointed out that there might be a real danger of attracting a larger number of students than the Department is able to accommodate and that a modest increase to not more than double the present undergraduate enrollment would seem most desirable.

(*Continued on page 102*)

*Members of this Committee for 1955–1956 were: Irving W. Wilson, '11, chairman, Max L. Waterman, '13, Charles B. Sawyer, '17, Howard H. McClintic, '19, Walter F. Munford, '23, Walter Crafts, '26, Edgar C. Bain, Charles R. Cox, and George Roberts.

Soil Mechanics Lecturer

■ Karl Terzaghi, international authority on soil mechanics, has been appointed lecturer and research consultant in soil mechanics for the current academic year at the Institute, according to an announcement by C. Richard Soderberg, '20, Dean of the School of Engineering at M.I.T. In making this announcement, Dean Soderberg said:

"Dr. Terzaghi is one of the great pioneers in civil engineering, and although he will be at M.I.T. on a limited basis only, I am sure his presence here will be an inspiration to students and staff alike."

Professor emeritus of the practice of civil engineering at Harvard, Dr. Terzaghi is the founder of the modern science of soil mechanics, a field of great importance to foundation engineering. He is president of the International Conference on Soil Mechanics and Foundation Engineering.

Dr. Terzaghi previously taught at M.I.T. (from 1925–1929) as a special lecturer in soil mechanics, and as associate professor of foundation engineering. At M.I.T. he developed the first courses in soil mechanics to be given in the United States. Today soil mechanics has become basic to civil engineering.

Dr. Terzaghi has received numerous awards and prizes. These include three awards of the Norman Medal (American Society of Civil Engineers); the Desmond Fitzgerald Medal and the Clemens Herschel Award of the Boston Society of Civil Engineers; the Brown Medal of the Franklin Institute; and the New England Award of the Engineering Societies of New England.

Born in Prague, Czechoslovakia, on October 2, 1883, Dr. Terzaghi was graduated from the Technische Hochschule at Graz, Austria, in 1904, and in 1911, received a doctor's degree in civil engineering.

From 1906–1914, he was employed in various capacities on projects in Austria, the Balkans, and northern Russia. In 1912–1913, he traveled through the western part of the United States working on important projects of the U.S. Reclamation Bureau. After two years in the Austrian Army in World War I, he became professor of foundation engineering at the Turkish Engineering University.

In 1918, he transferred to Robert College in Istanbul as acting head of the Department of Civil Engineering. During the period from 1916-1924, he acted as consulting engineer on various difficult foundations and water supply projects. From 1925–1929, he was on the Faculty at M.I.T.

He then served as a professor at the Technische Hochschule in Vienna from 1929 to 1938. During these years he was a consultant on a hydroelectric development in northern Russia, various irrigation projects in Central Asia, on rock-fill dams in Algiers, and on numerous other structures in the Eastern Hemisphere.

Harvard University invited Dr. Terzaghi to lecture on soil mechanics in 1936. In 1938 he became a lecturer in the Harvard Graduate School of Engineering, and in 1947 was appointed professor of the practice of civil engineering. He has also served as lecturer and research consultant at the University of Illinois.

Wreck Brunswick Hotel

■ Technology Alumni who vividly remember "When M.I.T. Was 'Boston Tech' " will be interested to learn that the Brunswick Hotel is soon to be torn down to make room for a $4,000,000 office building at Boylston and Clarendon Street, in Boston. The Brunswick Hotel, built in 1874, was host to many celebrities, including Longfellow, Emerson, Mark Twain, and Presidents Grant, Cleveland, Arthur, and Garfield.

The Brunswick Hotel was opposite the original William Barton Rogers Building whose classrooms were first opened for use in February, 1866, although it was not until September, 1866, that the Rogers Building was in full use. The original Rogers Building was torn down in 1939 to make way for the office building of the New England Mutual Life Insurance Company.

Many Technology Alumni were well acquainted with the Brunswick Hotel, where chapel was held in earlier days of the Institute's history. In recent years the Brunswick had lost much of its former splendor. During World War II it was used by the U.S. Coast Guard as a receiving station.

To Study Structural Panels

■ Inauguration of a one-year study of structural sandwich panels, laminated components which are being used increasingly in building, is being undertaken by the Institute. The study has been made possible by a grant-in-aid from the Market Development Department of the Plastics Division of the Monsanto Chemical Company, which also supported a recent study at M.I.T. of the uses of plastics in building. An outgrowth of that program was a plastic house which Monsanto will erect at Disneyland.

Plastic sandwich panels will be used in this house, but sandwich panels of many types are now being manufactured and the purpose of the new study will be to compile information concerning their costs, characteristics and possible uses for the building industry. A sandwich panel is usually made of two thin strong faces and a low density core, which may be of plastic, plywood, metal, impregnated paper, or other materials.

A significant portion of the study will be devoted to the development and presentation of creative ideas for architectural applications. Richard W. Hamilton, '50, research associate in the M.I.T. Department of Architecture, who will be in charge of the study, commented on this new program as follows:

The lack of design and engineering information on sandwich panels for architects and designers is a serious gap in the literature of the building field. The characteristics of sandwich panels, such as strength, lightness, rigidity and uniformity, make them an increasingly important contender with the more traditional materials because of the shifting emphasis of construction to prefabrication. A wide variety of qualities in the basic materials enables a sandwich panel to meet many requirements but also presents new problems of design.

Manufacturers of sandwich panels will be invited to participate in the program in two ways: (1) by appearing in a series of conferences to be held at M.I.T.; and (2) by furnishing materials.

Treasurer's Annual Report

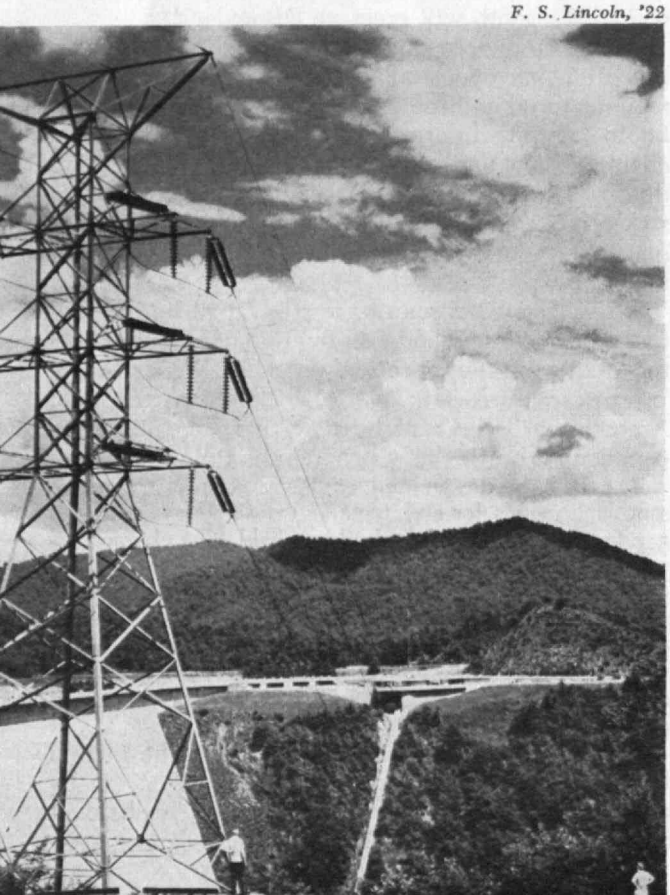
by JOSEPH J. SNYDER

In his report to the Corporation, Joseph J. Snyder, 2-44, Treasurer of the Institute, contrasted the academic operations at M.I.T. during the fiscal year ended June 30, 1956, by pointing out that the total operations were $17,099,000 as compared with $14,813,000 in the preceding year.

Academic expenses for the year under review reflected primarily increased Faculty salaries and compensation to Institute employees, along with increased departmental expenses for teaching and research. The increase in salaries and wages was met in part by a special distribution set aside a year ago from unallocated investment income. Gifts and other receipts and tuition income supplied a substantial proportion of the additional income required for the programs of the academic departments.

Sponsored research continued during the year as an important and growing responsibility of the Institute, and the financial volume of activity exceeded the level of the highest year during World War II. Many sponsored research projects are closely integrated with the teaching programs of the Departments and contribute very materially to academic operations, particularly to the strength of the Graduate School. A substantial proportion of the Institute's general administration, and plant operating expense is made up of indirect expenses of activities required by the sponsored research program.

F. S. Lincoln, '22



Gifts for the year exceeded the peak year during the great Development Program, with 1955-1956 at $10,387,000 compared to $9,145,000 in 1950-1951.

Gifts for endowment were higher than in any year since the end of World War II, with $1,360,000 received from the Ford Foundation for Faculty salaries. Endowment funds of $500,000 for research included $200,000 as an anonymous gift, and $300,000 from the estate of Edith Carson Wilder. Undergraduate scholarships were endowed with total gifts of $433,000. Principal donors were the estate of Katherine Noble; the family of W. Danforth Compton, '47, in his memory; Mrs. Marie G. Dennett for the Carl Pullen Dennett Fund; Godfrey L. Cabot, Inc., for the Cabot Endowed Scholarships; Paul W. Litchfield, '96, for the Litchfield Fund; Merrill, Lynch, Pierce, Fenner and Beane for the Charles E. Merrill Fund; Transoceanic Marine, Inc., for the Niarchos Merchant Seamen Memorial; Redfield Proctor, '02, for the Vermont Scholarships; and the Boston Stein Club for the New England Scholarships.

In the gifts received for buildings, major support to the Compton Laboratories and the nuclear reactor was provided by Irenee du Pont, '97, Mr. and Mrs. Alfred P. Sloan, Jr., '95, the Edwin Sibley Webster Foundation, the Rockefeller Foundation, and John L. Pratt. Alvan T. Fuller contributed generously toward the organ for the Kresge Auditorium.

Invested gifts for current use included the bequest of David F. du Pont, '56, of $1,006,000 for athletic facilities, the Alumni Fund of $355,000 and $220,000 from Alumni credited directly to specified purposes, and $430,000 as an expendable capital fund supplied by the Ford Foundation for professorships in economics.

The Sloan Foundation and the Ford Foundation made very large contributions for the continuation of programs financed by annual grants over a period of years.

During the fiscal year 1956 endowment funds increased from $48,056,000 to $51,084,000 and total funds increased from $73,833,000 to $82,679,000. Total endowment funds at the year end included as new endowment resources $1,692,000 for Faculty salaries, $660,000 for departments and research, and $433,000 for undergraduate scholarships. The increase of $3,028,000 for endowment contrasts with the increase of $5,818,000 in other funds, largely expendable for current purposes. Funds for additions to the academic plant, for student athletic programs, for the funding of Faculty tenure salaries and other expenses now met with current revenues, and for the support of the academic departments, together with

(Concluded on page 118)

M.I.T. Graduate Program at Oak Ridge

At the "campus away from campus" graduate students from many courses are attracted to a program of professional study dealing with peaceful applications of atomic energy

by ROBERT C. REID and J. EDWARD VIVIAN

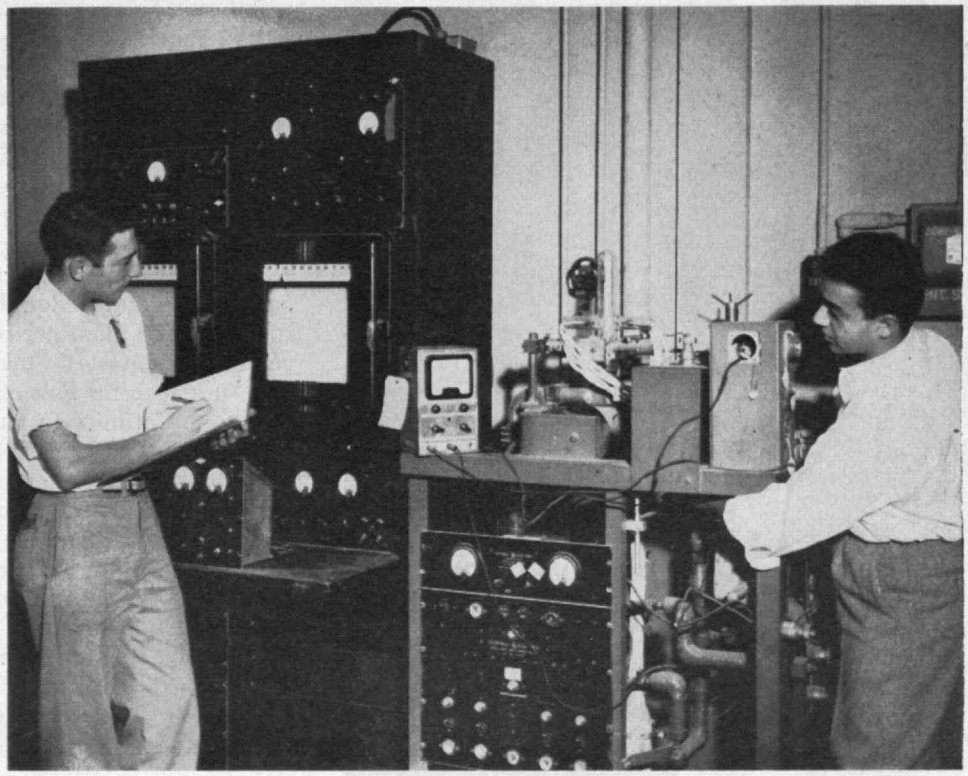
NESTLED in the rolling, green hills of Tennessee, between the Great Smoky Mountains and the Cumberland Plateau, is Oak Ridge, one of the most famous research, development, and production areas under the authority of the Atomic Energy Commission. Although only 14 years old, this bustling, vital community plays an important role both in harnessing the atom for peaceful application and in supplying the atomic-weapon arsenal. It contains one of the highest concentrations of engineers and scientists in the South.

Recognizing the opportunities, both technical and financial, that would be afforded to graduate students by on-the-job learning and experience in the relatively new field of atomic energy, M.I.T. established the Engineering Practice School at Oak Ridge for its graduate students in 1948. In its eight years of operation, the School has become an integral part of the Oak Ridge industrial complex. Each year it graduates all types of scientists and engineers, most of whom will put their atomic "know-how" to work to further the basic and technological advances in this rapidly growing field. This "campus away from campus" entails, in the administrative sense, one semester, which is comprised of three courses in nuclear engineering, all of which are graduate courses with 16 units of credit per course.

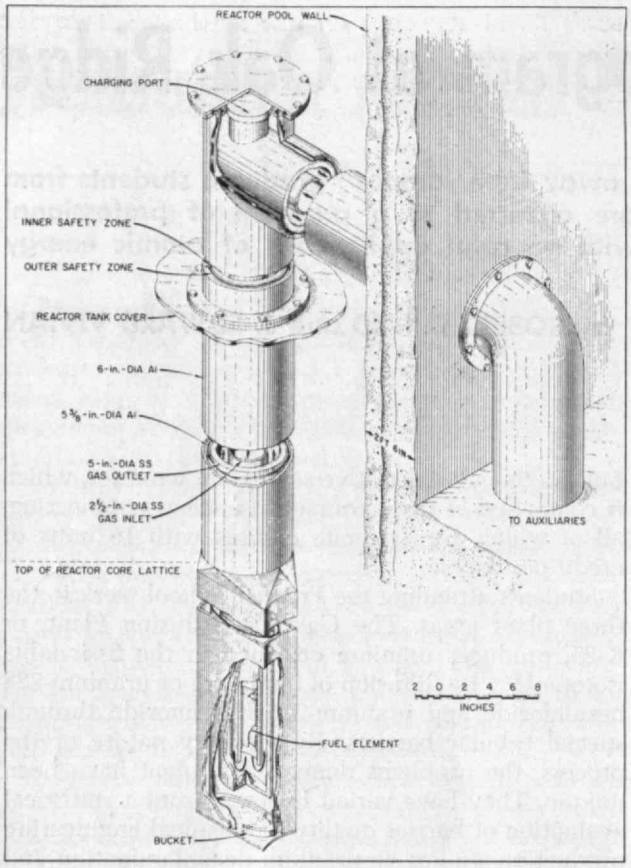
Students attending the Practice School work in the three plant areas. The Gaseous Diffusion Plant, or K-25, produces uranium enriched in the fissionable isotope U^{235} by diffusion of a mixture of uranium-238 hexafluoride and uranium-235 hexafluoride through special tubular barriers. By the very nature of the process, the problems done at this plant have been unique. They have varied in scope from a statistical evaluation of barrier quality to chemical engineering production studies on uranium decontamination and recovery.

Very little can be said here concerning the student problems at the Y-12 Plant, since the nature of the operations is still highly classified.

The Oak Ridge National Laboratory, or X-10, is primarily a research and development division and the Practice School has completed many excellent problems at this busy center. Physicists and nuclear engineers coming to the Practice School can look for-

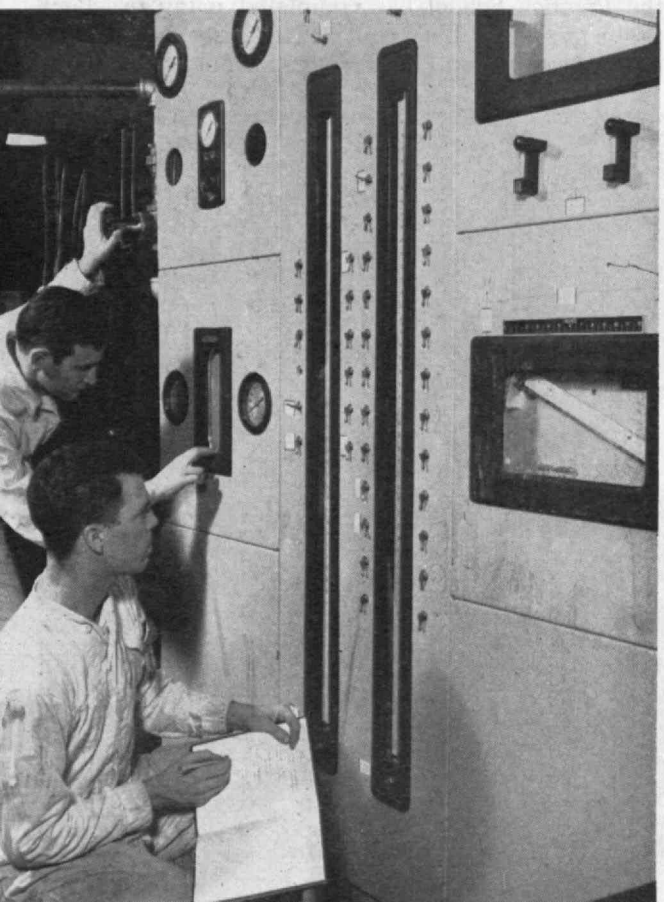


Chemical engineers David H. Klipstein, '56, and Anthony J. Diglio, '55, are shown making experimental pressure drop measurements for gas-liquid, two-phase flow. The data taken here should be useful in the design of gas-let-down systems in homogeneous reactors' facilities.



▲ *This drawing shows a high-temperature, gas-cooled fuel-element test facility for the Oak Ridge reactor. This test loop was designed by four students for one two-week problem.*

▼ *Physicists Albert D. Rossin, '55, and Floro D. Miraldi, '53, are shown testing a novel leak system for mass spectrometers designed by Practice School students at Oak Ridge.*



ward to grappling with many problems in their field, as there are three reactors in operation and another under construction. In fact, a recent problem assignment dealt with drilling a four-inch core hole through the concrete shield of the O.R.N.L. graphite reactor. A typical problem in the Practice School program, it involved mechanical engineering aspects of core drilling, core testing, and data evaluation of concrete that has been under constant irradiation for over 10 years. For nuclear engineers, electrical engineers, and physicists it involved the challenging problems of measuring neutron spectrums and gamma rays after attenuation in concrete. The results of this study should aid in clarifying the theory of shielding in cubical reactors. In addition, facilities and problems are available at X-10 to metallurgists, ceramists, chemists, chemical engineers, and other technically trained personnel. The conclusion to be emphasized, however, is that, at Oak Ridge, the students meet and work with scientists and engineers of all types, from embryologists to sanitary engineers. No other field has required so many different scientific and engineering talents as atomic energy.

Education at the Practice School

The Oak Ridge Engineering Practice School has specialized in the unusual – unusual in the sense that the application of theory is new to most students. Every new problem – and new problems are assigned about every two to three weeks – is presented as a challenge to the ability of the student. By arousing students to meet these new challenges, the Practice School has stimulated creativeness and fostered the sense of achievement that accompanies the successful completion of any problem.

Practice School problems, suggested largely by the plant scientists and engineers, are assigned to groups of students only after it has been carefully ascertained that the problems will be educational and the results will be of value to the plant. A plant consultant is designated for every problem, so that although a student is directly responsible to the resident Practice School staff, he has direct liaison with the plant through the consultant, who has a real interest in seeing that the best job is accomplished in the least amount of time. When each group project is terminated, a report is prepared which is thoroughly checked and which is usually revised several times before the finished report is distributed to plant personnel. The knowledge that his signed report will be distributed to plant personnel for study, plus the considerable interest he takes in his work, encourages the student to his best efforts.

The opportunity to participate in solving some of the problems of concern to plant personnel motivates the student in accomplishing a great deal of good work in a surprisingly short time. This attitude provides the key to Practice School operations.

Union Carbide Nuclear Company, prime contractor to the Atomic Energy Commission in the Oak Ridge area, has subcontracted to M.I.T. for the establishment of the School and has provided the School with a medium-sized building which contains offices, classrooms, library, drafting room, and a fully equipped machine shop. An operating budget is provided to

As a recent problem, the Practice School, in conjunction with the Applied Physics Division of O.R.N.L., drilled a core hole through the concrete shield of the O.R.N.L. graphite reactor. Shown at the right is mechanical engineer, Dennis W. Vroom, '56, cleaning the core drill after one of the drillings. ►

maintain the station, to purchase necessary experimental equipment and office supplies, and, upon the recommendation of M.I.T., to pay each student $200 a month for the period during which he is enrolled at the School. The student is, therefore, an employee of Union Carbide Nuclear Company during his period of enrollment, and may participate in the company benefit plans for which he is eligible.

The enrollment at the Practice School is limited to 30, and a heterogeneous class is encouraged because many of the plant problems require teams of scientists and engineers with different backgrounds and training.

Even though the plant areas are closed to the public and travel from one plant or section of a plant to another requires a "need-to-know" priority, the students are granted a three-plant badge which puts them in the select group that may enter all three plants. This freedom is highly respected by M.I.T., and to date no security violations have been incurred. Although their interplant travel is confined to the need-to-know visits, in the one semester spent at the

▼ *Chemical engineers, James F. Nichols, '56, and Dean T. Morgan, a graduate student, are shown preparing uranium nitrate feed solutions for extraction efficiency experiments.*

School, the students will do problems in all three areas. Thus they will become acquainted with the operations in each area. In addition, they receive complete tours through almost all of the facilities in each area. The student who intends to stay with the expanding field of atomic energy is thus provided with an unexcelled opportunity to survey the atomic energy field.

Student Assignments

The students' work at the plant begins with an indoctrination into security, followed by introductory field trips to the three plants. The students are then split into groups and assigned problems. Since normally each problem will last from two to three weeks, in one semester some seven to eight different problems will be assigned to each student.

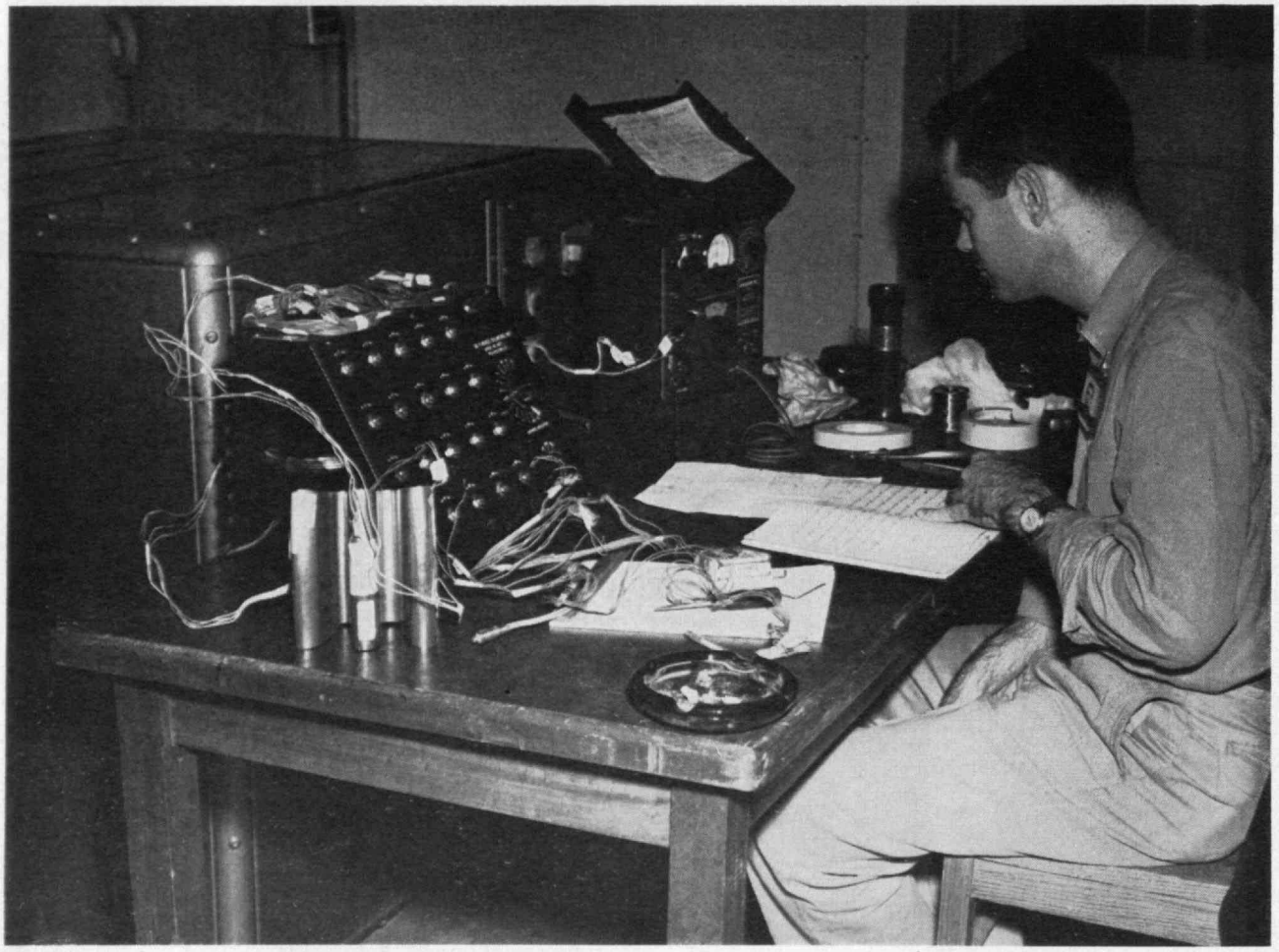
The selection and assignment of the problems are the responsibility of the Practice School staff. The selection of a problem is usually accomplished by conferences of the School staff with the plant men, and the request for a test or investigation frequently originates directly with the plant supervisors or laboratory heads. The assignments are always chosen with the approval of the superintendent whose division is most interested in the results to be obtained. The assignment is then presented to a section of the student group in the form of a memorandum outlining the general problem and the type of information desired. The size of the section and the time allotted vary with the magnitude and scope of the assignment; for example, two men may work on a limited research problem for one week, or 10 men may be engaged in a comprehensive design and development project for a month.

In no case is only one man assigned to a problem, for co-operative team effort is one of the factors stressed at the Practice School. In sections of three or more men, one man is appointed a group leader. He is responsible for co-ordinating the work and seeing that the assignment is completed on schedule. The responsibility of being a group leader is rotated among the men.

Each group has the responsibility for the solution of its assigned problem. The first step in the solution of the problem is to become acquainted with the existing theory, operations, and equipment involved. The group must then determine the phase of the problem to which the investigation will be confined. This may be accomplished by conferring with the plant men for their ideas and by consulting the literature, including plant reports, to determine what information is already available. Once the specific problem has been defined, it must be analyzed to determine the experimental data needed, the test

(*Continued on page 120*)

To aid in designing better equipment, mechanical engineer George W. Bond, Jr., a graduate student, is shown measuring radial and tangential strains while flexing a large bellows.



For Youths of Exceptional Promise

Memorial for Technology Alumnus established to offer encouragement to young men showing outstanding promise of a successful career in field of metallurgy

THE Robert Lansing Hardy gold medal has recently been established to recognize and encourage the professional development of young men in the early years of their careers. The award has been established to take note of young men of exceptional promise, rather than to acclaim achievement of persons already established in their respective fields of endeavor. With this objective in mind, the medal is to be awarded annually to a medalist who has not yet reached his 30th birthday before the end of the calendar year during which selection of the recipient is made. The American Institute of Mining, Metallurgical and Petroleum Engineers will administer this permanent award which is made possible by a fund which now amounts to $5,000.

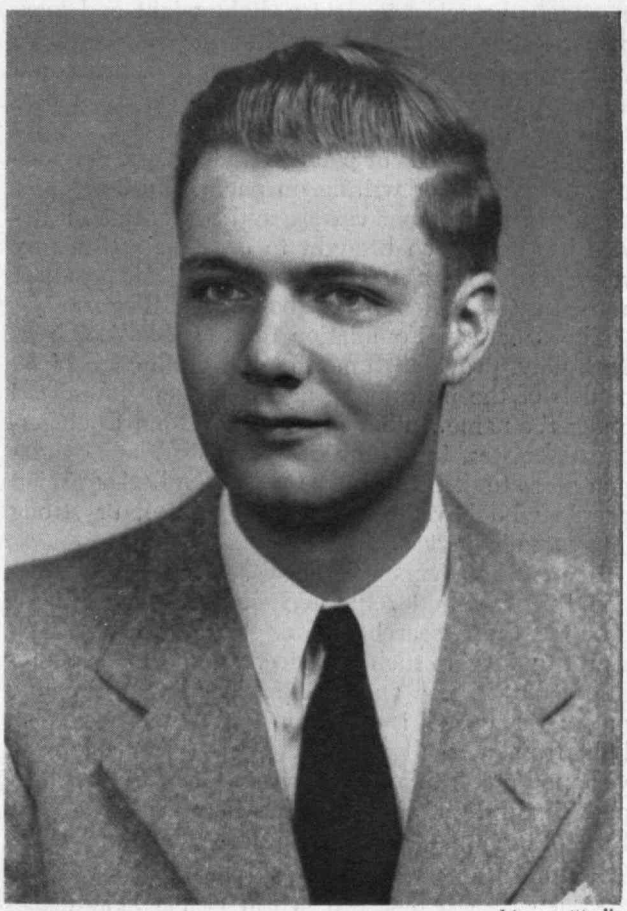
In making the award in the field of metallurgy, the medal gives emphasis to a field of engineering in which Robert L. Hardy, '53, was especially interested and professionally active. By stipulating that the award be made to a young metallurgist of exceptional promise, the medal is intended to stimulate in others the personal characteristics of enthusiastic anticipation of a better life through professional attainments, for which Mr. Hardy was clearly and widely recognized when his career was prematurely ended.

The award is to be made by the American Institute of Mining, Metallurgical and Petroleum Engineers. Candidates for the medal are to be selected from those working in the broad field of metallurgy, including mineral beneficiation; extractive, physical, or adaptive metallurgy; and metal processing.

A principal objective of the award is to provide substantial encouragement to young professional workers, in their twenties, in the broad field of metallurgy, and to do so at a propitious time in their career. In keeping with this aim, it is planned that the award be announced in December of each year, and that the medal be awarded at a meeting of the local section of the American Institute of Mining, Metallurgical and Petroleum Engineers, with which the recipient is most closely identified. Nominations are to be submitted to the Awards Committee through the local section of the A.I.M.M.P.E.

The gold medal, one and three quarters inches in diameter, serves as a memorial to Robert Lansing Hardy, who was born in Wellesley, Mass., on November 22, 1929. After attending the Wellesley High School, he completed the Institute's Course in General Engineering. Upon receiving the S.B. degree in 1953, he then pursued graduate studies in the Department of Mechanical Engineering where he specialized in metallurgy and strength of materials. He received the S.M. degree from M.I.T. in 1954. While a student at the Institute, Mr. Hardy was a member of the Rifle Team. His broad interests were further reflected by the post he held as treasurer of *Voo Doo*, one of the Institute's student publications. He was a member of Sigma Xi, the American Institute of Mining, Metallurgical and Petroleum Engineers, the American Society of Mechanical Engineers, and the American Society for Metals.

After receiving his master's degree, Mr. Hardy was employed as a metallurgist at the Watertown Arsenal, Watertown, Mass., and was quickly placed in charge of technical and business operations for several important projects dealing with national defense. Mr. Hardy was unusually well suited for his work at the Arsenal and made many friends during the few months he was privileged to engage in professional work. His work was prematurely brought to an end with his death on December 29, 1954, after an illness of several weeks. He was the only son of Professor and Mrs. Arthur C. Hardy, '18.



Lincoln Studio

Robert Lansing Hardy, '53
for whom gold medal is named

The Optical Probe—

A New Tool for the Blind

Using recently developed photocells and transistors, a pocket-size electronic device developed at M.I.T. is being subjected to extensive tests in the field

by CLIFFORD M. WITCHER

Just before his untimely death on October 6, 1956, Clifford M. Witcher completed manuscript for this Review article which now serves as a tribute to his important work in developing aids for the blind. Many of the devices conceived by Dr. Witcher require further development to make them available for the blind. It is hoped this aim can be achieved through establishment of a foundation dedicated to the application of science for the blind. — Ed.

For a long time, those interested in the development of aids for the blind have wished for a simple, compact photoelectric device—lightweight and inexpensive—that would enable a blind person to observe variations in light intensity. If such a device could be made sufficiently sensitive, it would make it possible for the blind user to "see" a number of useful things—the positions of pointers under glass, the position of printing or writing on paper, the heights of liquids in transparent vessels, and so on. Such a device has now been brought to a rather satisfactory state of development by the sensory aids project at the Institute's Research Laboratory of Electronics.*

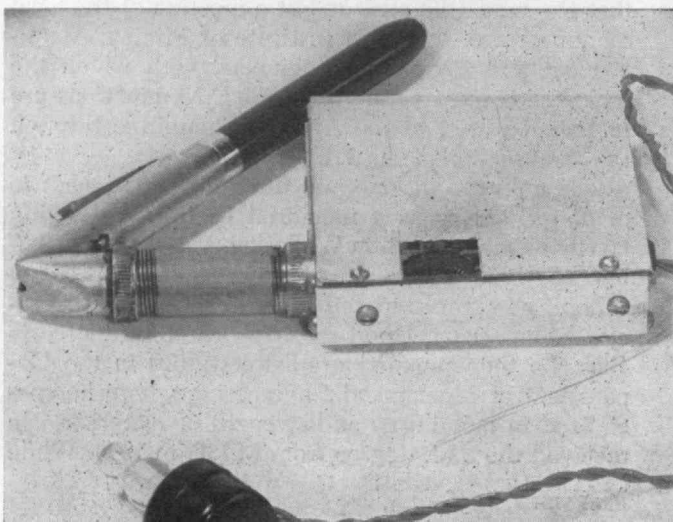
The American Foundation for the Blind, of New York City, provided funds for the production of 50 models of the instrument, and they were fabricated under the name Audi-Vis probe, by Dunn Engineering Associates, Inc., Cambridge, Mass. The Foundation plans to distribute them on a loan basis to blind people who have expressed a need for, or strong interest in, a device of this kind.

It was three years ago that the American Foundation for the Blind requested that the sensory aids group at the Research Laboratory of Electronics attempt to develop such a device. We did so: a photograph of the line and pointer locator, as the first model was called, is shown in Fig. 1. In this model, light from a small penlight entered one end of a v-shaped metal tube, as shown in the photograph. A part of the light reflected from any object held in front of the open vertex of the tube passed out of the other end, thence through a small lens, and finally fell on a small lead sulphide photocell.

The photocell served as the resistance element in a relaxation oscillator circuit that utilized a small neon glow lamp. The variations in resistance of the cell, caused by changing light intensity, were thus converted into variations in the frequency of the oscillator. A small hearing-aid type of earphone enabled the blind user to hear the frequency of the oscillator. To improve the sensitivity of the instrument, a second relaxation oscillator was provided, whose resistance element was a small hearing-aid type of potentiometer connected as a rheostat. By means of this rheostat, the second oscillator could be adjusted to synchronism with the first for any given light intensity. Thereafter, small changes in light intensity would produce readily detectable frequency differences between the two oscillators which produced audible sounds.

Two types of v-shaped tubes were provided. In the first type, the image of the photocell surface formed by the lens exactly coincided with the opening at the vertex. In the second, the image plane was approximately one-quarter inch out beyond the milled-off vertex of the tube. The first form served for detecting the position of printed or written material on paper, the procedure being simply to move the vertex of the tube over the surface of the paper. When the vertex opening passed over anything with less reflectivity than the paper (such as an ink line),

Fig. 1. First experimental model of the optical probe called the "line and pointer locator"



*This work was supported in part by the Army (Signal Corps), the Air Force (Office of Scientific Research, Air Research and Development Command), and the Navy (Office of Naval Research).

the frequency of the oscillator controlled by the photocell was lowered. The information provided by this type of device is not sufficient to make it possible to *identify* printed or written letters; but the ability to find the *position* of printing or writing on a page is of considerable use to blind typists.

The second tube, for which the image plane is one-quarter inch beyond the vertex, is well suited for the detection of pointers under glass. It thus makes it possible for the blind user to read meters, gauges, and so on, provided a transparent plastic scale (with raised markings) is laid over the face of the meter. The over-all weight of the instrument, including the penlight and the three 30-volt hearing-aid batteries needed to activate the oscillators, was approximately seven ounces.

About a year ago a new version of the device was constructed in which the lead sulphide photocell was replaced by a much more sensitive cadmium sulphide cell. With this cell the ratio of frequency change to change in light intensity was so much greater that the second relaxation oscillator could be dispensed with. In this model the auxiliary penlight was replaced by a small 1.5-volt incandescent lamp which was powered by a single penlight cell inside the case of the instrument.

It soon became apparent that the device was not only useful for the applications already mentioned, but that it also offered many more possibilities. By removing the lamp and the v tubes and focusing the lens for infinity, the instrument could be made to serve as a rather sensitive detector for distant light sources. Street lights were detectable at distances of 200-300 feet, and the moon could be detected with ease. By replacing the 0.5 inch lens with one of 2.5 inches in diameter, bright stars or bright groups of stars could be faintly detected. (The resolution of the instrument was about five degrees, so that, in general, one could not be sure whether the light from one or from several stars was responsible for the change in signal.) Of course, for low levels of light intensity, the signal heard by the user was not a continuous tone, but a series of clicks or pulses. In absolute darkness the resistance of cadmium sulphide cells may become of the order of 10^9 ohms, so that the signal pulses may cease altogether.

An interesting application of the instrument involving the detection of external light sources may be its use by a blind telephone switchboard operator. At present the telephone company can provide special equipment to enable a blind operator to identify the position of an incoming call; with the new optical probe it may be possible for her to locate directly the position of the signal light on the board. The American Foundation for the Blind has planned to conduct a study of this possibility. Still another application of the probe has been that of detecting the trace on a cathode-ray oscilloscope. For this purpose, a metal cone with a one-sixteenth inch opening at its vertex is placed over the front of the lens, and the optical probe is so adjusted that the image of the photocell is at the plane of the opening in the cone. With some practice, a blind person is able to get a fairly clear mental picture of any oscilloscope trace that can be held stationary.

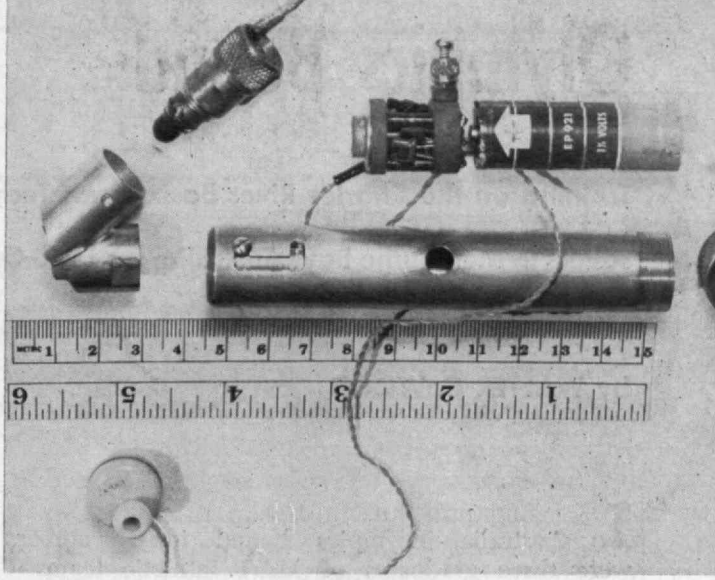


Fig. 2. Elements of the prototype model of the optical probe using transistors.

Early this year, Carl R. Hurtig, '51, of the Research Laboratory of Electronics, suggested that a transistor circuit might be devised to replace the previous relaxation oscillator, thus making possible replacement of three relatively bulky hearing-aid batteries by a single 1.5 volt penlight cell. The entire power supply consists of one small flashlight cell which is also used to provide power for the self-contained light source. In this circuit two low-noise junction transistors are arranged to operate as a free-running multivibrator oscillator. As in the case of the relaxation oscillator of the earlier model, the frequency of the multivibrator varies as a function of light intensity on the photocell. If the resistance of the cell varied inversely with light intensity, the multivibrator frequency would vary linearly with illumination. This is roughly true for low and medium light levels, but at high light levels

(*Continued on page 104*)

Fig. 3. Method of using the optical probe for obtaining readings of electrical indicating meter equipped with plastic plate having raised scale.

Olympics Bound

Training on the Charles River Basin leads Technology sailors to Melbourne Bay, Australia, for 1956 Olympics

by WALTER C. WOOD

To Australia, Olympics bound in November, were three graduates of M.I.T. athletic teams — former dinghy sailors, C. Eric Olsen, Jr., '39, and John Marvin, '49 — as well as First Lieutenant Herbert B. Voelcker, Jr., '51, U. S. Army, former Rifle Team captain, who was a member of the U. S. Olympic High Power Rifle Team.

Eric Olsen earned his qualifying berth in the Sharpie class, a two-man 18-foot sloop, a type not found in the United States but popular throughout Europe and Australia where the races will be held early this winter. The Sharpie class trials were held in Marion, Mass., where it was expected the prevailing strong winds would provide sailing conditions comparable to those in Melbourne Bay. Jolly boats, found in local waters, were used in the series, as they are the nearest boat akin to the Sharpie. At M.I.T., Olsen was one of the early enthusiasts who helped organize intercollegiate sailing and personally compiled an enviable record of championships as a member of the famous team of Olsen, Hanson, and Colie (C. Eric Olsen, Jr., '39, Herman H. Hanson, '39, Runyon Colie, Jr., '40) in the 1938–1940 era.

M.I.T. Photos

While a student at M.I.T., Olsen acted as junior instructor at the Pleon Yacht Club at Marblehead, and while there, developed a star sailor in John Marvin who later came to M.I.T. and sailed throughout his four years. Marvin will represent the United States in the single-handed or monotype class which will again be sailed in the Finn-class boats first used in the 1952 Olympics. The win was achieved only after two series of trials in Firefly dinghies at Marion, and then in borrowed Finn-class boats at Ottawa, Canada. In Ottawa first place was determined in an eight-race series only after a first-place tie was broken by Marvin who won over his competitor by four second places to two — both having equal point scores and the same number of first places. This will mark the third successive Olympic games in which the monotype representative from the United States has been a graduate of the M.I.T. Nautical Association. In 1948 Ralph L. Evans, Jr., '48, finished second, and in 1952 Edward A. Melaika, '53, participated in Helsinki.

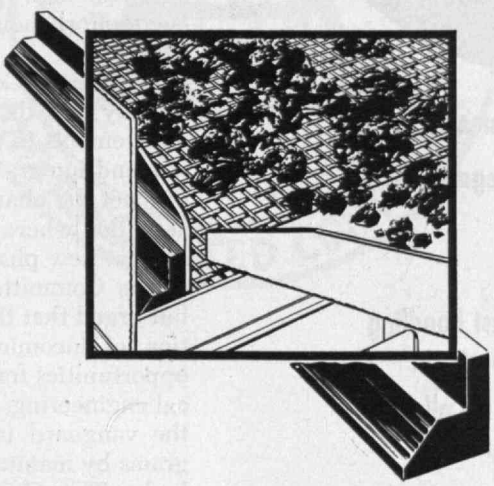
Both Olsen and Marvin left San Francisco by air for Melbourne on November 6 for the races which started on November 22. Three other classes of boats participated in the Olympic races — the Star, the Dragon, and the 5.5.

John Marvin, '49, practicing in the Finn-class boat on the Charles River Basin in preparation for the Olympic races held on Melbourne Bay in late November. With toes anchored under straps in the cockpit, Marvin stretches the greater part of his body out over the side, with the tiller extension in one hand and the sheet in the other — a grueling attitude to be assumed over the greater part of the six-mile Olympic course.

To our Colleagues in American Business . . .

If you process clay, crushed stone, iron ore, coal, foodstuffs or potash and similar chemicals, where screening is part of the operation, then you know that the screen can be vibrated as much as 3600 times per minute. This means every part must be able to take a terrific beating constantly. It has been found that by heating the screen electrically the surface tension is removed from each and every wire of the screen cloth so that even damp or moist material will not "blind" the cloth opening.

One of those heater parts is an extruded copper shape that runs along either side of the screen. At the point where the extruded shape meets the wire a positive electrical contact must be maintained at all times. So the bar must be non-porous, free from any burrs or voids and capable of maintaining a straight leading edge. Also, the bar must carry 1500 amps. at 5 volts. The country's leading manufacturer of these screen heaters had experimented with many different types of material. A copper casting was selected to do the job. But it was found on installation that the 60" castings required additional welded joints, presented a porosity problem, and the bow in the casting made it difficult to fasten the screen firmly to the contact.



After discussing the problem with one of Revere's TA's (Technical Advisor), it was suggested that a Revere Copper Extruded Shape be used instead of the casting. It was furnished in 12 foot mill lengths. This offered flexibility and eliminated both welds and scrap. The extrusion licked the porosity problem, and its straightness was superior to the casting. Also it gave better longitudinal electrical contact. The cost per foot of the extrusion was more than the casting, but the additional welds and scrap encountered made the final installed cost of the casting higher. In addition the finished extruded shape was superior. Another case where spending a little more initially resulted in an ultimate saving and a better product.

The Vice President and General Manager of the company using this Revere Copper Extrusion commented, "Without the use of an extruded electrical conductor it would be virtually impossible to maintain satisfactory operating results under the trying conditions which exist in the field. But with this shape we are able to install an electrical heating attachment with complete confidence that it will provide many years of maintenance-free life, at the same time helping our customers produce a better product. This extruded conductor, subject to electrical strain and abrasion from materials moving across the screen, has in many cases provided the electrical heating circuit in the production of 1½ million tons of raw material without a single replacement."

While the product noted here happens to come from Revere, there are equally outstanding performances turned in by materials furnished by "Our Colleagues in American Business." For that reason we would like to suggest that you get to know your suppliers better. It's entirely possible that a meeting of the minds would result in a better product at less cost by getting the exact material for the job.

(*Continued from page 90*)

Visiting Committee Report—Mechanical Engineering

rather than on those of the immediate future. Moreover, science and technology are advancing so rapidly that the problems of this Department – and the teaching of science and engineering as a whole – are becoming increasingly difficult, so that continual review of the Department's changing needs is required. Some feeling was expressed that the field of propulsion was not being exploited to the extent that it should be to serve industry as well as the needs of the country. This situation results, in part, because of security restrictions imposed on some of the advanced technology in this field.

Some discussion related to the question of how best an institution like M.I.T. could co-operate with local industry in the advanced training of young engineers, with opportunity for obtaining advanced degrees. Many factors make such a program difficult to carry out with high quality, but the Committee felt that every effort should be made to make such a program effective.

Finally, the Committee recognized the need to continually seek the strongest possible staff, with proper inducements to the able younger men, and to synthesize and integrate the research and educational work to meet the changing needs, eliminating or reducing activities where possible to make room for the important new phases of mechanical engineering.

The Committee had no specific recommendations but urged that the Department continue to call attention of incoming students to the advantages and opportunities for men trained in the field of mechanical engineering, that it make every effort to remain in the vanguard in its educational and research programs by maintaining a first-quality staff and student body. The Committee agreed that Professor Den Hartog is not only well aware of the problems facing the Department but that he is working toward the proper solutions.

The Committee's report was considered at the March 5, 1956, meeting of the M.I.T. Corporation, and was received for publication in The Review on October 25, 1956.

Visiting Committee Report—Metallurgy

Professor Cohen submitted an outline of a proposed new curriculum which was presented for discussion and advice from the Visiting Committee. Three-fourths of the proposed curriculum is a core devoted to science and mechanics, metallurgy and humanities, while one-fourth consists of elective subjects that the student may select in Metallurgy and in other fields. If the core curriculum were to be adopted, more counseling than is now provided by registration officers would probably be necessary to help students plan an elective program with depth.

The general reaction of the Visiting Committee was to support the proposed curriculum but to point out

(*Concluded on page 104*)

For many a year, the Bell seal has been the signpost of telephone service. A little while ago we got to thinking that such a well-known symbol deserved a slogan.

We found six words that seem to sum up the story of the telephone and the telephone business . . . "Working Together to Bring People Together."

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Isn't there someone you'd like to call right now?

BELL TELEPHONE SYSTEM

TUNE IN "TELEPHONE TIME"...The TV program with John Nesbitt's real life stories the whole family can enjoy together...Every Sunday over CBS...See your local newspaper for time and channel.

TREND OF AFFAIRS

(Concluded from page 102)

that: (1) the quantitative viewpoint (such as that engendered by quantitative analysis) is to be preserved; (2) it is vital that the young metallurgist should have enough elective time in his curriculum to take a moderate amount of work in electrical engineering, and mechanical engineering, and (3) the engineering viewpoint must not be lost sight of in the new curriculum. The hope was expressed that the revised curriculum will give greater opportunities in the engineering direction.

Professor Chipman discussed the space requirements and facilities needed by the Department. He presented graphs which showed the steady increase in graduate enrollment and research activity and the simultaneous decrease in the amount of Institute funds used by the Department, despite the declining purchasing power of the dollar. The limiting factor in the research program at the present moment is space, and this is likely to remain the limiting factor until a new building or some other major space provision becomes available.

Among the physical needs of the Department were mentioned the following: (1) passenger elevator for Building 35; (2) air conditioning for the Building 35 lecture room; (3) dust-free air for laboratories in Buildings 4 and 8; (4) miscellaneous equipment, especially for metal working. The Committee strongly recommends that these physical needs be given understanding consideration by the Administration.

The meeting recessed at 12 o'clock for luncheon to which the entire staff of the Metallurgy Department was invited. At 2:00 P.M., the Committee met in executive session with C. Richard Soderberg, '20, Dean of the School of Engineering, and Professor Chipman. As a result of a thorough discussion of the personnel and policies of the Department, the Committee expressed its satisfaction in the Department's operations and objectives.

The Committee's report was considered at the March 5, 1956, meeting of the M.I.T. Corporation, and was received for publication in The Review on October 25, 1956.

THE OPTICAL PROBE

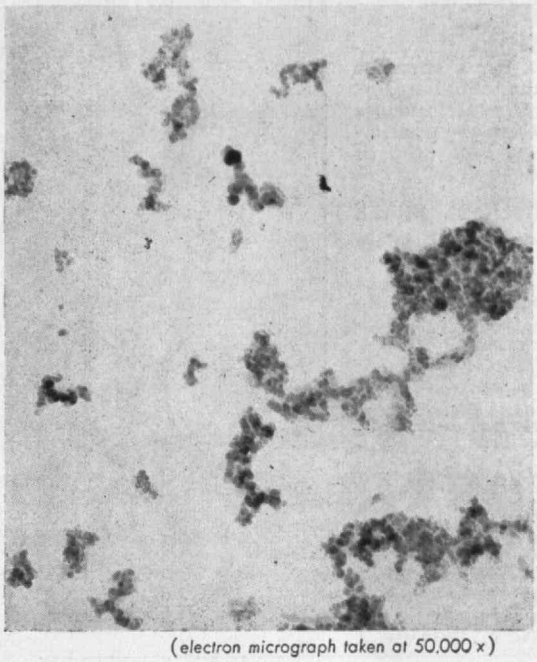
(Continued from page 99)

the frequency variation is less. At very low light levels, the multivibrator will no longer operate when only 1.5 volts are applied to it. However, by applying three volts or more, the performance at low light levels becomes comparable with that of the relaxation oscillator circuit.

The current required for the multivibrator is very low, varying from 550 to 650 microamperes, depending on intensity of illumination, so that a useful battery life of a few hundred hours is achieved. Of course, for applications requiring the use of the internal light source (which requires 0.2 ampere), the battery life decreases to only a few hours. However,

(Concluded on page 106)

What is it?



(electron micrograph taken at 50,000 x)

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THE OPTICAL PROBE

(Concluded from page 104)

if the occasion arises in which it is necessary to use the probe with the light on for continuous work, an auxiliary power supply, such as a No. 6 dry cell, can readily be provided for the light.

An illustration of the various parts of the device, including one of the v tubes used for meter reading, is shown in Fig. 2. The way in which the device is actually used for reading a meter is illustrated in Fig. 3. A transparent plastic sheet, upon which a raised scale has been embossed, has been laid over the glass front of the meter so that scale indications can be determined by the sense of touch. Observe, also, the connection of the light to the small binding post on the side of the case of the optical probe. This binding post is the positive terminal of the battery. The other side of the light is grounded through the socket and v tube, and the negative side of the battery is grounded through the screw cap at the top of the instrument. The cap thus serves as a switch for both the light and the electronics circuits.

The cylindrical aluminum housing of the probe is four and five-eighths inches long and has an outside diameter of three-quarters inch. The weight of the probe and earphone, without light or v tube, is slightly under four ounces. Two v tubes are provided, as in the previous models, and also a cone with a small hole for observing small areas of different light intensity, such as oscilloscope traces, for example. A twist lock arrangement is used to secure these attachments to the probe, or to secure the lamp socket in either of the v tubes.

No doubt the field tests using the 50 models mentioned at the beginning of this article will lead to many new and useful applications of the instrument. Most especially, however, are we anxious to learn of applications of the optical probe that will lead to new employment opportunities for the blind.

In addition to serving as an aid for the blind, it would seem that an instrument of this type might be well suited for a number of other applications. Its light weight and compactness, together with its low power drain and reliability of performance, strongly suggest telemetric applications. In recent months, cadmium sulphide photocells with considerable sensitivity in the near infrared have been developed. With these cells, the probe might well serve as a useful component in infrared detection and communication systems.

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Wires and Cables for:

TREND OF AFFAIRS

(Continued from page 88)

Choral Society

The "Mozart All-Stars," as the M.I.T. singers were named by student members of the Darmstadt Orchestra (proud of their American lingo), gave six formal concerts: in Frankfurt, Weikersheim, Darmstadt, and Bad Mergentheim, and in the old university towns of Heidelberg and Marburg. The performances were an unqualified success. And even rehearsals drew a daily quota of German youngsters, who slipped into university music halls and medieval churches to listen – wide-eyed and silent – to the American visitors.

The concerts were conducted by Klaus Liepmann, Professor of Music at M.I.T. In addition to members of the Choral Society (freshman coeds and professors included), there were five soloists, all of whom were received enthusiastically at concerts and in the German press: Helen Boatwright, soprano; Margaret Tobias, alto; Donald Sullivan and David Ashton, tenors; and Paul Matthen, bass.

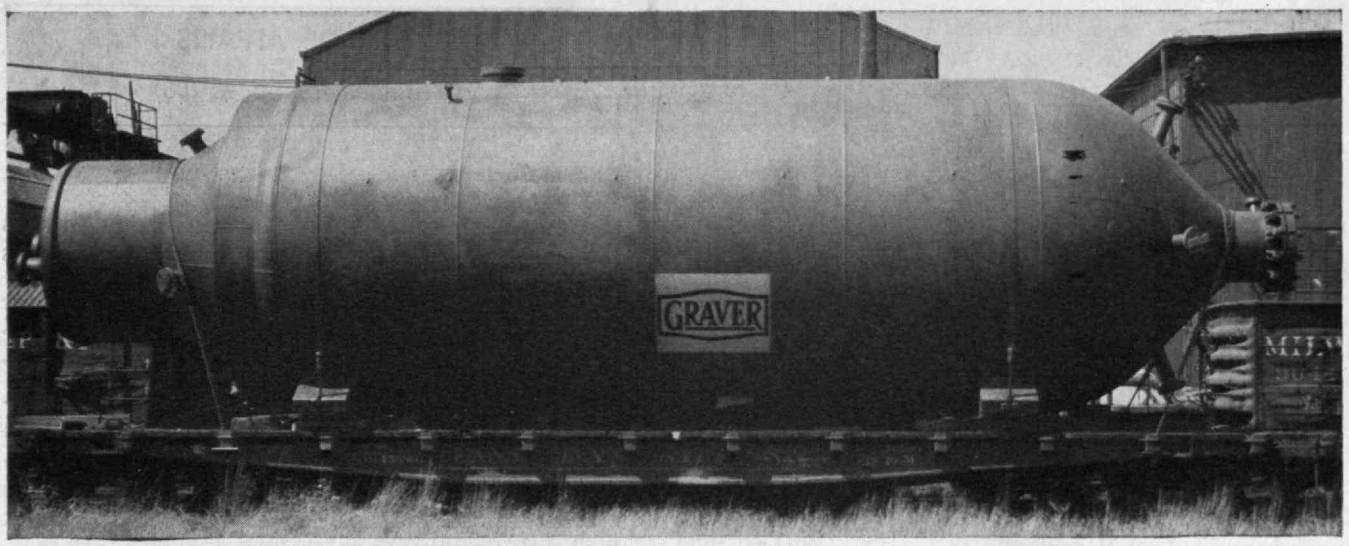
An unusual feature of the tour – and the one reported by Bill Burdine to be the most rewarding – was the musical accompaniment which was almost entirely provided by European student orchestras. That an American chorus should travel to Germany to sing, with German orchestras, several major choral works by German composers, was a signal honor and a signal experience.

The schedule of both groups was correspondingly hectic. Rehearsals were long and intensive, but there was time, too, for talk, less formal songfests, "seminars" (parties), dancing, picnics, and other get-togethers.

The Choral Society is the first American college group to have sung with the European Youth Orchestra and the Orchestra of Darmstadt Technical Institute, M.I.T.'s scientific counterpart in Germany. To Americans and Germans, the meeting was a particularly rich one, and the possibility of a repeat performance is already being discussed.

"It goes without saying," commented the *Oberhessische Zeitung* of an M.I.T.-Darmstadt Technical Institute performance, "that on such an occasion, the human contact between guests and their hosts is at least as important and taken as seriously as the musical event itself. Thus the enthusiastic applause in

(Continued on page 110)



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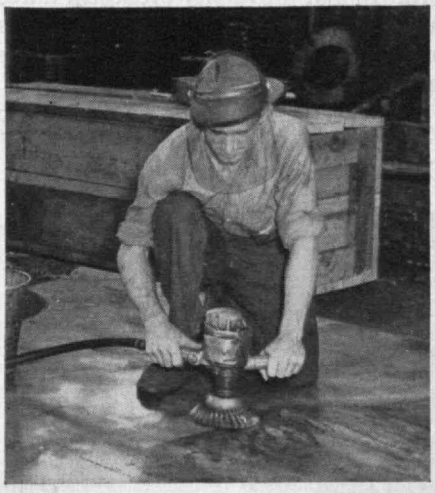

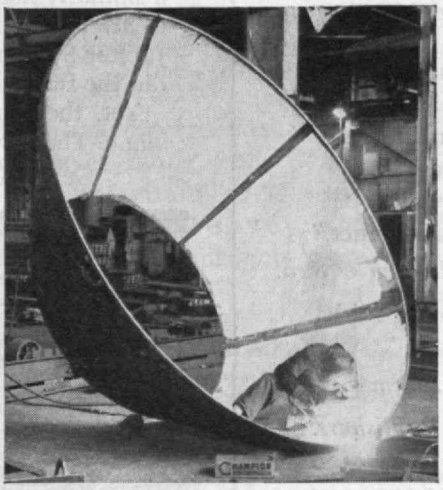

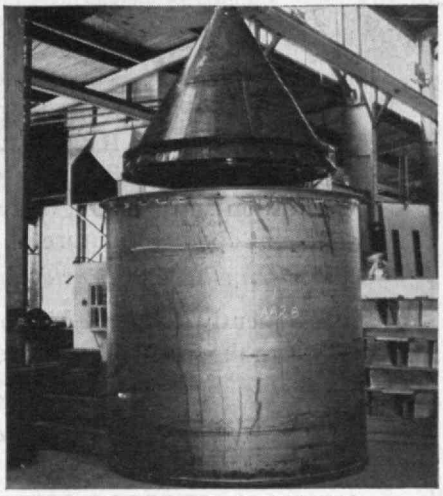

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(Continued from page 108)

Choral Society

the overflowing auditorium expressed joy in this festive get-together of student youth, as well as thanks for their musical offerings."

M.I.T.'s musical offerings on the tour consisted of four major choral works: Haydn's "St. Teresa Mass," the Mozart "Requiem," Honegger's "King David," and Stravinsky's "Mass." (On one less formal occasion, they were called upon for the songs of Stephen Foster, and with the help of Paul Wild, elderly German actor-singer, joined their German friends in rousing Americo-German renditions of "Old Black Joe" and "Swanee River.")

Musical contributions of M.I.T.'s German hosts ranged from Mozart's Jupiter Symphony to a trumpet fanfare written especially for the Choral Society's arrival in Weikersheim and played, like medieval heraldry, from the top of the church spire at the entrance to the ancient town.

Without exception, the response to the quality of music presented by the Choral Society and their German accompanists was favorable. Said the Darmstadt *Tageblatt,* "The (M.I.T.) chorus will dispel once and for all, many a European superiority complex! It is an amateur chorus, superbly balanced vocally, with strict discipline and clear diction, and absolutely sure in its entrances. We have the baton of Professor Klaus Liepmann to thank for the exemplary unity of this chorus."

Touching on the deeper meanings of the M.I.T.-Darmstadt Technical Institute music-making, the *Oberhessische Zeitung* noted: "The pieces that were performed were of an order of magnitude which points to a real musical avocation on the part of these groups . . . For it is not every day that a university chorus which is not made up of music students can prepare and perform one of the long Haydn Masses as the chorus from Cambridge did, and that a similarly nonprofessional university orchestra dares to attempt such a large symphonic task as Mozart's Jupiter Symphony, with some artistic justification, as did the future engineers from Darmstadt."

Yet, the tour did not begin and end with music alone. There were also personal highlights:

(Continued on page 112)

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Physicists:

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1954
A. U. Block
1949
Emmett H. Bradley
1950
J. Dulchinos
1948
Kenneth J. Fawcett, Jr.
1952
David Lee
1946
Manford Markowitz
1951
Charles E. McGinnis
1954
R. R. McPherson
1951
R. M. Oliver
1952
Clair F. Parker, Jr.
1951
E. O. Parker
1942
George Sebestyen
1955
B. D. Smith, Jr.
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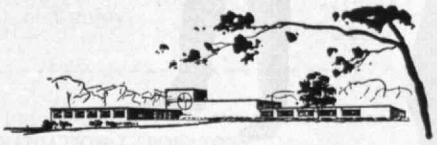

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TREND OF AFFAIRS

(*Continued from page 110*)

Choral Society

Dr. Karl Maguerre, Professor of Applied Mechanics at Darmstadt Technical Institute and conductor of the Darmstadt Technical Orchestra, almost adopted the Choral Society *in toto*. A brilliant scientist and accomplished musician who spent some years on the faculty of Washington University at St. Louis, Dr. Maguerre made his M.I.T. visitors feel immediately at home in their flying tour through a strange country. And, with loyalty supreme, he bicycled with his family from Darmstadt to Weikersheim – a distance of over 200 miles – to hear his M.I.T. friends sing there.

Also indispensable to the M.I.T. choristers was Gerd Miedel, son of Frau Dr. Hilde Miedel, who acted as liaison officer, general arranger, and interpreter. Frau Dr. Miedel, wife of a prominent German industrialist, was largely responsible for the tour, for she it was who first heard the Choral Society sing in this country and urged that they come to Germany last summer.

A Bostonian, Max Grossman, now Public Affairs Officer with the U.S. Information Agency in Frankfurt, saved the day more than once by co-ordinating housing arrangements for the group, as well as entertaining at a huge dinner in the Frankfurt Officers' Club.

A very special performance, audience-wise, was that of the Mozart Requiem in the Stadtkirchen at Weikersheim – an ancient church (1427) attached to Weikersheim Castle – at which Duke Gottfried, Duchess Margareta, and Prince Konstantin of Hohenlohe-Langenburg, owners of the castle, were present. The Hohenlohe-Langenburgs are members of a noble family which has its roots far back in German history; the Duchess is the sister of the Duke of Edinburgh. After the concert, the "royal" threesome gave a reception for Klaus Liepmann. Perhaps it was because of the distinguished company present that, according to Bill Burdine, this performance was the best.

For Professor Liepmann, the German tour had special significance: this was his first trip "home" since 1933, the year he came to the United States to continue a career, started in Germany, as professional violinist, conductor, and teacher.

"Where are you from, sir?" asked one German reporter after carefully listening to Professor Liepmann's fluent German. "Sounds to me as if you came from either Kiel or Hamburg." "Right," said Professor Liepmann, "I was born in Kiel and educated in Hamburg."

From castle tours to seminars, from banquets to solemn performances, from Stephen Foster to the exchange of technical notes on scientific developments in the two countries, the M.I.T. Choral Society tour in Germany was eminently successful. And most important of all were the many new friendships which were made with students across the seas.

(*Concluded on page 114*)

TREND OF AFFAIRS

(Concluded from page 112)

Choral Society

Bill Burdine sums it up this way: "For our American chorus and the German student orchestras to work together in a joint musical venture of this type was a wonderful demonstration of international goodwill and understanding, and seemed to all of us the essence of the entire effort."

Answers *Tauber Zeitung*, a newspaper covering the M.I.T.-European Youth Orchestra finale in Bad Mergentheim, "Something not so obvious (as the merit of the performance itself) was the spontaneous and enthusiastic joining of people from all areas through the medium of music, a language we all understand . . .; and the fact that a country of technical miracles and an Institute not specializing in art sends a nonprofessional choir which gave such an overwhelming performance. Perhaps from another country we, too, can learn that a rich life is not won by scientific and technical progress alone . . . Young musicians — in a real sense — do we thank for an enduring and impressive performance."

Security Officer Appointed

■ Appointment of Harvey Burstein as the Security Officer at the Institute has been announced by Edward L. Cochrane, '20, Vice-president for Industrial and Governmental Relations.

Mr. Burstein comes to M.I.T. with broad experience and thorough training in security work. He holds an LL.B. degree from Creighton University at Omaha, Neb., and served with the Federal Bureau of Investigation for six years before and after his war service. He had combat duty in the 9th Armored Division, and service in the Corps of Military Police of the United States Army. He has served as Chief, Division of Foreign and Domestic Investigations, Surveys, and Physical Security in the Department of State, and has recently been in private practice as a security consultant in Boston.

At M.I.T. he will be involved in the problems of security for the classified research work being done for the Federal government, and also with the general problems of plant protection which are extensive in an institution as large as M.I.T.

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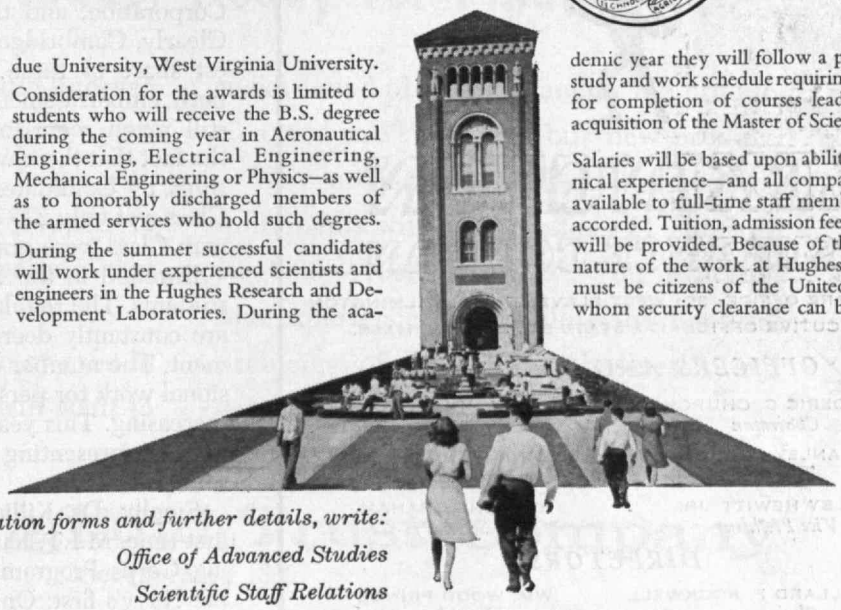

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TREND OF AFFAIRS

(Concluded from page 88)

Council Meeting

upon Technology's President, James R. Killian, Jr., '26, to report on recent developments that have taken place at the Institute.

Dr. Killian opened his remarks by mentioning the Institute's indebtedness to the Alumni Association and particularly to its officers. Then, turning to the topic of enrollment, Dr. Killian stated that currently there are exactly 6,000 students registered at M.I.T. The greatest increase is in the Graduate School. Actually, we do not yet have the anticipated tidal wave of applicants confronting the nation as a whole. In fact, the present pressure of college applicants is being felt only by the well-known institutions; many small schools have capacity available.

The Institute's attitude is that M.I.T. can do more to alleviate the shortage of quality than the shortage of numbers in the present need for larger numbers of well-trained engineers and scientists.

Speaking on scholarships, Dr. Killian reported that this year there was an 80 per cent increase in the available undergraduate scholarship funds, including $50,000 made available by the Alumni Fund. In addition, M.I.T. gains from the many national scholarships now available. For example, M.I.T.'s Freshman Class included 39 of the 550 recipients of the National Merit Scholarships. The Institute was second only to Harvard in the number of scholarships awarded by the National Merit, the General Motors Corporation, and the National Science Foundation. Clearly, Cambridge is receiving by all odds the largest share of these scholarship funds — a source of both embarrassment and pride. However, there is still much room for improvement as evidenced by the fact that there were 2,000 applications for scholarships by candidates for admission to the Freshman Class, yet only 275 of the 940 admitted to the Freshman Class were granted scholarship awards.

Enrolled in the 1956 Summer Session were 4,300 students. The regular routine undergraduate subjects are constantly decreasing in numbers and in enrollment. The number of programs for advanced professional work for persons currently employed is steadily increasing. This year there were 38 such special programs representing a total enrollment of 2,762 persons.

Finally, Dr. Killian reported that this fall, for the first time, M.I.T. has a Naval Reserve Officers' Training Corps Program. This is an experimental unit — the Navy's first. Only half of the normal N.R.O.T.C. Program consists of Reserve Training subjects. M.I.T. subjects have been subsituted in place of N.R.O.T.C. ones to make up the difference.

The final speaker of the evening was Victor F. Weisskopf, Professor of Physics, who spoke on his visit to the U.S.S.R. last summer. Dr. Weisskopf was one of a group of distinguished scientists who attended an international conference in Moscow dealing with subatomic particles of nature.

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TREASURER'S ANNUAL REPORT

(Concluded from page 92)

the net realized gain on investment transactions, composed the principal additions to other funds.

The construction of the nuclear reactor and reactor building was started in June, 1956. Further progress was made on the Karl Taylor Compton Laboratories, scheduled for completion and occupancy by the Departments of Physics and Electrical Engineering in the early part of 1957. The Computation Center, as a part of the Compton Building, is under construction and will be financed in part by the International Business Machines Corporation through grants made over a period of years. A grant of $500,000 received after the close of the year from the National Science Foundation assured the ultimate financing of the nuclear reactor and building, but other funds have yet to be secured to complete the project. The book value of the educational plant of the Institute was $37,980,000 on June 30, 1956, up from $36,086,000 on June 30, 1955.

During the fiscal year the general investments of the Institute increased from $71,831,000 to $79,390,000 at book value and during the same period the investments at market value from $109,344,000 to $123,683,000. Funds sharing in the income from the general investments earned 6.29 per cent on the average book value compared to 5.69 per cent last year, and 5 per cent was allocated to the funds compared to 4.5 per cent in 1954-1955 and 4.0 per cent in 1953-1954. In addition, 1 per cent was distributed in 1955-1956 from investment income earned in 1954-1955. The total income on the general and special investments was $4,070,000.

The financing of the Institute's operations illustrates its close relationship with the current problems of industry and government that provide valuable support for education at M.I.T. Well over half the Institute's current revenues for academic operations are provided by industry and government. After 15 years of heavy sponsored research responsibilities, the Institute's business operations, fiscal organization, and plant facilities have come to reflect the importance of the continuing support of industry and government. Private philanthropy is making an increasing contribution to the invested capital resources of the Institute for Faculty salaries, as is shown by the gifts received in 1955-1956; but unrestricted funds and income have been the principal sources of capital for funding salaries of the senior teaching staff during the past five years. Over that period the growth in general endowment and other capital funds for Faculty salaries has not kept pace with the increase in salary expenses, and yet Faculty salaries need to be further increased. The higher rate of investment income distributed on the funds of the Institute during the past two years has offset to some extent the deficiency in capital growth.

During the five years 1951 to 1956, the total assets at book value of the Institute have grown from $17,500 to $22,000 per student. This represents an average annual rate of growth in the order of 5 per cent, a very moderate rate in the light of the services the Institute is rendering the nation.

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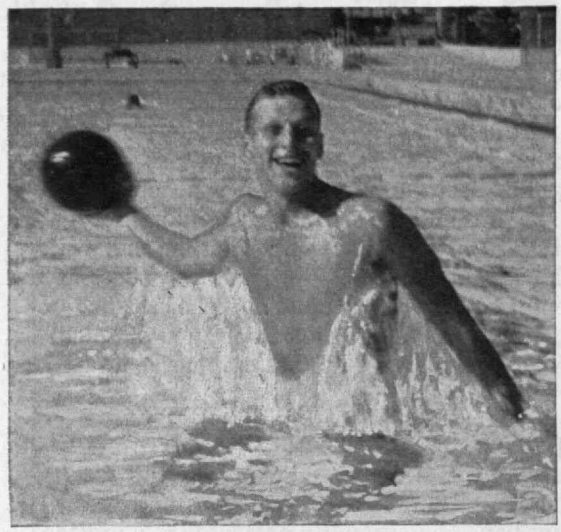

A champion athlete as well as a champion salesman, Bud Wallen is a member of this year's World Champion Indoor and Outdoor Water Polo Team.

Each year, New England Life's Leaders Association elects its most outstanding newcomer "Rookie-of-the-Year". Last year's winner, William L. "Bud" Wallen, sold over a million dollars worth of life insurance. Before joining New England Life, Bud worked for a nationally known manufacturer, where he set a sales record that still stands.

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As symbols of his award, Bud Wallen wears a baseball cap and holds a bat — in addition to the trophy — after being named "Rookie-of-the-Year" during the annual meeting of New England Life's Leaders Association at Sun Valley, Idaho.

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PROGRAM AT OAK RIDGE

(*Continued from page 96*)

equipment required, the results expected, and the manner in which they will be presented.

The group then presents its plan of attack to the staff for approval. The staff make criticisms and suggestions, but as far as is possible the final decisions on the procedure are left to the students. After a procedure has been outlined, which is acceptable to both the students and the staff, it is taken for approval to the plant supervisor in whose division the work will be done. Following this approval, the necessary experimental equipment is built and the actual test is performed. Throughout, the importance of scheduling and the completion date are emphasized.

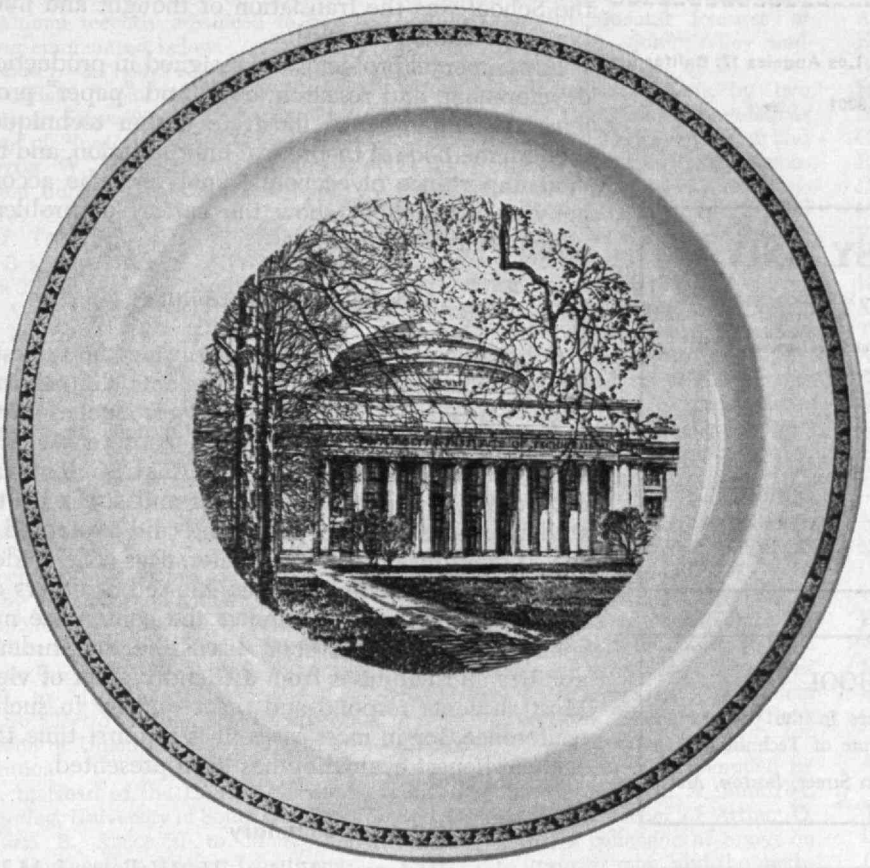
Problem Reporting

The assignment is complete when all the results have been analyzed and the conclusions and recommendations have been properly presented in a written account. The men get realistic experience in oral reporting during periodic sessions when short talks on these investigations are presented for the benefit of the plant personnel. An important part of these talks is the question period which follows, for it tests the speaker's grasp of his subject and his ability to give promptly a direct and adequate reply to a specific question. In addition to the talks on problem assignments, scheduled oral seminars are held throughout the term on assigned and optional subjects. These talks are recorded for the speaker to analyze and are freely criticized by the staff and students.

It is unfortunate, but true, that most graduate students write very poorly. But what is even more unfortunate is their unawareness of this handicap. An experiment in which the students themselves expose a poorly written report has been tried, with considerable success. After reports from the groups are turned in, they are given to other groups for editing. If the object is made clear to the students, they enter into the game with vigor, and each editing group sends the report back, almost completely covered with suggestions, criticisms, questions, and caustic wit. By such a technique each man is made aware of his limitations in coherent expression and begins to realize

(*Concluded on page 122*)

M. I. T. PLATES . . . . . .



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(*Concluded from page 120*)

that writing is an art in which clarity, conciseness, and accuracy are all highly important. In a recent survey of Practice School graduates, many students replied that the most valuable thing they learned at the School was the translation of thought and numbers into readable English.

Experimental problems are assigned in production, development, and research areas, and "paper" problems are employed to illustrate design techniques, modern methods of theoretical interpretation, and the vital importance of economic analyses. The accompanying illustrations show the variety of problems which are encountered.

Miscellaneous Activities

Other miscellaneous activities during the semester include trips to nearby industrial plants, dinners with Union Carbide Nuclear Company personnel as guests of the Practice School, and staff conferences. The staff conferences are somewhat unusual. Students rate each other, and plant consultants and staff rate the students. These ratings are coded and presented to the student during periodic conferences. The student thus has the opportunity to see himself as others do. The staff member who handles the conference may spend as much as an hour discussing the student's abilities and liabilities from a friendly point of view. Most students respond and react quickly to such a conference, for in most cases, it is the first time that such an honest evaluation has been presented.

Summary

The late Professor William H. Walker of M.I.T. stated that it is easier to acquire a knowledge of science than to apply intelligently and successfully such knowledge to the solution of practical problems. In recognition of this fact the primary objective of the Practice School is to develop the student's ability to apply fundamentals by assigning to him a variety of challenging plant problems. In other words, the Practice School strives to introduce the student to an industrial atmosphere. It also aims to develop in each student confidence in his ability to analyze and solve industrial problems and then to present his results in a written and oral form clearly, concisely, and accurately.

ALUMNI AND OFFICERS IN THE NEWS

New Posts . . .

In addition to the 21 Alumni elections and appointments recorded on page 89, other Alumni recently advanced to new posts are enumerated below:

LAURENCE C. HART'13, to Executive Vice-president, Junior Achievement, Inc. . . . LESTER LEWIS'22, to Chairman, Department of Physics, Wagner College . . . THORNTON W. OWEN'26, to Chairman, Perpetual Building Association of Washington, D. C.;

JOHN T. HARRISON'31, to Director, Fibre Box Association . . . SYDNEY R. MILLER'31, to Director, Avon Sole Company, Avon, Mass. . . . EMERSON S. NORRIS'33, to Manager of Facilities Engineering, Atomic Energy Division, Sylvania Electric Products, Inc.;

ERMANO GARAVENTA'35, to the Town Planning Commission, Manchester, Conn. . . . JAMES MCCORMACK, JR.,'37, to the Board of Governors and Executive Committee, Flight Safety Foundation . . . J. HERBERT HOLLOMON'40, to Advisory Editor of a new "Series on the Science and Technology of Materials" to be published by John Wiley and Sons, Inc.;

FREDERICK G. STROKE'40, to New England District Manager, Penn Precision Products, Inc. . . . HOWARD R. SPENDELOW'42, to Manager — Patents and Licenses for Electro Metallurgical Company, a Division of Union Carbide and Carbon Corporation . . . WILLIAM M. WELLS, JR.,'48, to Head of the Division of Civil Engineering, University of South Carolina;

ALFRED B. STECK'50 to Manager — Product Engineering, Everett-Lynn Foundries, General Electric Company . . . ROBERT J. BARTELS'51, to Executive Director, City Plan Commission, Hartford, Conn. . . . JAMES O. COBB'51, to Chief, WADC Aircraft Laboratory, Wright Air Development Center, Wright-Patterson Air Force Base.

In Print . . .

What Man May Be, by George R. Harrison, Dean of the School of Science at M.I.T., deals with the changes of modern science, and their effects upon human values. It is a "robust and realistic affirmation of man's continuing capacity for growth in the world of today and tomorrow." It further reveals a "firm conviction that science and religion *are* compatible; the clear demonstration that change is the essence of life and its progress is always upward, that man's opportunities are unlimited." (New York: William Morrow and Company, Inc., 1956, 278 pages, $4.00.)

Currents, Fields and Particles, by Francis Bitter, Professor, is a description of macroscopic electromagnetic phenomena in terms of fields, and microscopic atomic phenomena in terms of quanta. It introduces the reader to such abstract concepts as energy, momentum, electric and magnetic fields, conservation laws, impedance, and reactance. (New York: The Technology Press of M.I.T. and John Wiley and Sons, Inc., 1956, 599 pages, $8.50.)

Elementary Crystallography, by Professor Martin J. Buerger'24, is an introduction to the fundamental features of crystals. (New York: John Wiley and Sons, Inc., 1956, 528 pages, $9.50.)

Personnel Administration is by two members of M.I.T. Industrial Relations Section; Professors Charles A. Meyers and Paul Pigors. The book deals with personnel administration from management aspects, setting forth the problems and activities by extensive use of case studies. (New York: McGraw-Hill Book Company, third edition, 711 pages, $6.00.)

Pulse and Digital Circuits, by Professor Jacob Millman'32, and Professor Herbert Taub, is a recent text providing a "description and an analysis of the circuits and techniques common to many of the newer fields of electrical engineering." (New York: McGraw-Hill Book Company, 1956, 687 pages, $12.50.)

Random Processes in Automatic Control is by Professor J. Halcombe Laning, Jr.,'40, and Professor Richard H. Battin'45, of the M.I.T. Instrumentation Laboratory. It affords "a basic background in the theory of random signals and noise, together with practical techniques to be used in the analysis and synthesis of linear control systems which are subjected to random imputs." (New York: McGraw-Hill Book Company, 1956, 434 pages, $10.00.)

A Scientific Sampler was compiled by Raymond Stevens'17, Alan A. Smith'41, and Howard F. Hamacher of Arthur D. Little, Inc. It is a collection of essays on science, "as it affects man, and the methods of science," with discoveries and trends over the last 30 years. (Princeton: D. Van Nostrand and Company, 1956, 413 pages, $6.00.)

Thomas C. Desmond'09 has recently had articles published in *Today's Health.* In the July issue appeared "You're Not Old at 65," and the October issue contained "Wanted: Jobs for the Forty-Plus." In the November-December issue of "Your Life, Today's Guide to Desirable Living," appears his article "Mellow While You're Young."

In the October issue of The American Ceramic Society *Journal* appears the technical paper "Sintering of Glass." The authors are University of Notre Dame metallurgists J. C. Kuczynski'47, and Isidor Zaplatynskyj. This article gives the results of their research in glass, and the closing of pores in glass during the final stages of sintering.

Obituary

RALPH W. DOANE'88, September 29
HERBERT S. KIMBALL'91, October 18
FRANK G. ASHTON'93, June 4
WALTER A. HALL'95, September 19
CLARENCE C. CULVER'96, April 24*
FRANCIS V. MCCARTHY'97, August 29*
WILLIAM A. MARSHALL'98, August 20*
EDGAR A. WEIMER'98, October 26
CHARLES J. DAVIS'00, August 23*
CLIFFORD M. LEONARD'00, September 9*
CHARLES M. BUTTERS'01, August*
ANNA B. GALLUP'01, October 21
EDWARD H. CUTTER'02, September 5*
RALPH S. FRANKLIN'02, October 25
HENRY MCBURNEY'02, June 1*
HENRY G. HARRIS'03, December 25, 1955*
CHARLES H. ROBERTS'03, January 23*
RICHARD K. HALE'04, September 17*
DAVID R. DAVIS'05, September 16*
HOWARD H. FLAGG'05, May 3*
FRANCIS W. REGAN'05, January 18*
CHARLES F. BREITZKE'06, June 29*
RALPH H. BURKE'06, August 23
KARL P. HEINZEN'06, September 25*
THOMAS F. LEARY'06, January 4
ALLAN R. CULLIMORE'07, September 20*
ROY W. RYDEN'07, August 18*
JOHN SKASSIRSKY'07, January 3
LAWRENCE H. ALLEN'08, April 27*
UTAR J. NICHOLAS'08, April 14, 1952*
WARREN D. SPENGLER'08, November 11, 1954*
JAMES M. TALBOT'08, April 23*
KURT VONNEGUT'08, October 1*
CHARLES L. CAMPBELL'09, September 12*
WARREN M. EATON'09, June 9, 1954*
HENRY F. MILLER'10, September 29
NATHAN RANSOHOFF'10, September 25*
MOSS W. COLEBROOK'11, September 4*
SILAS M. RATZKOFF'11, date unknown
CLARENCE MCDONOUGH'12, September 19*
ANDREW W. CARMICHAEL'13, November 12, 1955
THOMAS J. RICE'13, June 22
EDWARD E. SMITH'13, September 8
J. STANLEY CHURCHILL'14, September 29*
ALEXANDER G. LONG'14, August*
JOHN SOKOLOFF'14, May 2, 1955
PALMER SABIN'15, September 20*
FRANK C. HOWARD'17, October 5*
NEWMAN M. MARSILIUS'17, October 18
PHILIP O. YEATON'17, August 18*
DWIGHT P. SPENCER'18, September 24
JAMES H. BUTLER'19, September 28
ANTHONY W. CONTIERI'19, January 10
VICTOR T. GIVOTOVSKY'19, October 13
GRANT K. FRENCH'20, October 26
ANDREW C. JENSEN, JR.,'21, September 22*
DONALD S. PISTON'21, September 30
THEODORE L. SCHUMACHER'21, June 23, 1952*
LUMAN T. THURBER'21, September 8*
BERT B. HERSHENSON'22, October 5
PAUL J. CULHANE'23, September 8*
DANIEL C. SAYRE'23, October 19
ARTHUR D. SMITH, JR.,'23, date unknown
EDWARD H. MCARDLE'24, June 14, 1955*
WILLIAM E. PUGH'24, January 3*
ROBERT C. WEBSTER'24, May 17*
E. WAYNE REMBERT'25, October 21
RICHARD M. MCCUSKER'29, October
W. SWEEZY CONKLIN'30, July 17, 1955
PAUL W. LAWLER'34, July 3*
GUY J. TALBOURDET'35, June 23
EDWARD F. MCGUINNESS, JR.,'46, March 4
LUIS H. MENDOZA'46, July 10*
ALEXANDER DUREN'52, April 14, 1952

*Further information in Class Notes

NEWS FROM THE CLUBS AND CLASSES

CLUB NOTES

Boston Luncheon

The Boston M.I.T. Luncheon Club held its first meeting of the 1956-1957 season on October 18, with about 85 members and guests present to hear a detailed and interesting talk on the future of the M.I.T. Alumni Association by Harold E. Lobdell '17, executive vice-president of the Alumni Association. Mr. Lobdell had prepared a detailed analysis of the estimated size and composition of the M.I.T. Alumni body in 1961, based on present and past statistics, together with expected contributions to the Alumni Fund based thereon.

Assuming an increase of younger Alumni during 1956-1961 equal to the input during the previous five years, and applying accumulated ratios of life expectancies of class groups arranged according to years out of M.I.T., it is estimated that the total living Alumni will increase 10.5 per cent from present figures of 47,329 to 52,293 in 1961. During this period, estimated shifts in distribution of living Alumni arranged by class groups according to years out of the Institute show only small percentage changes, except for the 11- to 20-year group which is up 4.6 per cent, and the 1- to 10-year group which is down 3.8 per cent of the total.

A continual effort is being made to reduce the number of Alumni with "addresses unknown," and it is forecast that by 1961 the percentage of living Alumni who can be listed geographically will be increased to 96 per cent.

The percentage of "foreign" Alumni (i.e., other than those *residing* in the U.S. and its territories) will increase to 8.3 per cent from the present 7.2 per cent and the 1948 figure of 6.1 per cent. Distribution geographically within the U.S. appears to remain unchanged with respect to the top ten states, with Massachusetts remaining first (although down from 25.7 per cent of the U.S. total in 1955 to 23.9 per cent in 1961), followed by New York, California, New Jersey, Pennsylvania, Connecticut, Ohio, Illinois, Texas, and the District of Columbia. With respect to foreign Alumni, Canada will continue with a preponderant lead, with India and Venezuela showing the highest percentage increases over 1955.

Of the total living Alumni in 1961, it is expected that 72.4 per cent will be on the Active List; almost the same percentage as during 1956.

On the basis of the average contributions for each age group, as well as participation ratios being the same in 1961 as in 1956, it is forecast that the total amount contributed by 11,932 contributors will be $634,900. However, by increased effort and new methods, primarily a partial "door to door" type canvass, Mr. Lobdell expects that this figure can reasonably be increased up to $704,300 by a progressive increase by class groups in the participation ratios, keeping average contributions constant. — C. VINCENT VAPPI, *Secretary*, 1400 Canton Avenue, Milton 86, Mass.

Cleveland

The first meeting of the 1956-1957 Cleveland Club winter season was held at the Carling's Brewery in Cleveland in October, 1956. This meeting was a good fellowship get-together, the purpose of which was to have an informal get-acquainted atmosphere with a background of music and singing. This is the first time in recent years that such a meeting had been planned

The Executive Committee has been meeting once a month during the summer months and has lined up a very excellent program for this coming year. At the meeting to be held the end of November, the members of the N.A.C.A. Lewis Flight Propulsion Laboratory will give us a discussion on present high-speed aircraft and missile propulsion. The luncheon during the Christmas Season for the students from this area presently at Tech, and two meetings in the spring, one of which will be the Annual Ladies Night, complete our program. One of the highlights of the beer party was the first availability of the Cleveland Alumni Directory. This Directory compiles the names and both business and home address of all the Cleveland Alumni, and is made available at a slight charge to alleviate expenses. It is hoped that this Directory will further help in getting our local Alumni to work together.

In addition to the entertainment program, an accelerated scholarship drive is being made so that the local Cleveland Club scholarship may be increased for the succeeding years. This fund is from volunteer donations from the Cleveland Club and, in the past few years, several very worth-while students have been helped in entering M.I.T. by this scholarship. — JAY P. AUWERTER, *Secretary*, Atlantic Automatic Company, 18502 Syracuse Avenue, Cleveland 10, Ohio.

Cuba

February 22-25, 1957 — Friday through Monday — have been selected as the dates when our M.I.T. Club of Cuba will hold its first "M.I.T. Weekend in Havana" to which a cordial invitation is being extended to Alumni in the States as well as in the Caribbean area.

All visitors holding reservations will be met on arrival at the airport or steamer dock and personally escorted to their hotels by members of our Club. Formal registration on the morning of the 23rd will be followed by a tour of the older part of the city, ending at the Rum Havana Club Patio at Cathedral Square, from which point the assembled party will proceed into the country for luncheon.

Sunday evening, the 24th, the gala banquet will take place at the Havana Country Club or the Havana Yacht Club. (On this occasion, as well as for other events, dress will be *informal*.)

All of Monday, the 25th, will be taken up by a tour eastward along the northern coast to Varadero Beach, via the palm-studded Yumurí Valley at quaint Matanzas. Luncheon will be served at the Kawama Club or at the Oasis Motel at Varadero, and there will be opportunity for swimming in the crystal clear waters of this most famous beach — and also opportunity for "Siesta Time" before starting back to Havana.

Since the number of visitors who can be accommodated is limited, it is earnestly requested that information as to reservations be obtained well in advance by writing to A. H. Rodríguez'21, Concordia 61, Havana, Cuba. *"Hasta la Vista."* — GONZALO C. DOCAL, *President*, Av. Central #5, Rpto. Kohly, Marianao, Cuba.

The Personal Column — Those members of the Class of 1924 who have good memories will remember that there were two totally unrelated Cuban boys in their Class with the same name: Antonio Rosado. While Course XIII Antonio Rosado is now president of the Cuban Telephone Company, an affiliate of International Tel and Tel, Course VI Antonio Rosado is dean of students at the School of Engineering in Havana University. And although the university and the phone company are in different parts of town, both men claim that most of each one's mail still goes to the other Rosado.

From 8:00 in the morning to 5:00 P.M., Manuel Cadenas'45 worked at the U.S. Rubber Company's plant as a maintenance engineer. And he worked hard. For years he dreamed of being promoted to plant manager. As such he would be able to finance a home. Tired of waiting, however, he tried to convince a bank to finance his dream and was surprised to learn he succeeded. So, he built his home, and some time last year he and his family moved in. It was very much like other suburban Havana homes, but to Manuel it was heaven. A month after his moving, the long-awaited promotion to plant manager finally came. He was to be manager of the new plant the U.S. Rubber Company was building in Montevideo, Uruguay, more than 2000 miles away from his heaven.

Many a junior or senior at Tech has decided that because he has been expending such effort, he deserves later in life to go lion hunting in Africa. Therefore, a date is immediately set for ten or fifteen years after graduation. Two such hopefuls, who partially realized this particular dream, were Antonio Arias'39, and his roommate. Last year they set out on a safari from Nairobi. Two months later it was reported that the expedition had captured a few antelopes and a buffalo, but

no lions. — ANTONIO BADIA, *Assistant Secretary*, Esso Standard Oil of Cuba, Calle "O," Vedado, Havana, Cuba.

Miami Valley

The second meeting of the year was held October 1, with 25 members in attendance for social hour, dinner, and a fine talk by Professor Robert Hard'49, of the Metallurgy Department. Professor Hard described some of the recent changes in the physical plant at the Institute, as well as the work of the Admissions Office and the Educational Council. Particular attention was paid to the impact on the student body of the Kresge Auditorium and the Chapel. Professor Hard gave some of his personal history and the reasons he decided to study for a Doctorate. Professor Hard opened the meeting to questions, and a lively discussion of Admissions Office policy and the problem of upgrading the incoming freshman class followed.

Michael J. Gibbons'06 had attended his 50th reunion in June, and made a few remarks which pointed up the continuity of the Club and the loyalty and *esprit* which exists among M.I.T. men in the Miami Valley as well as throughout the world. — STEVEN HELLER, *Secretary*, 249 Claridge Drive, North, Dayton 9, Ohio.

New York

On Wednesday night, November 14, the M.I.T. Club of New York observed its annual Silver Stein Dinner for members and their guests. This year the Silver Stein was awarded to Alfred P. Sloan, Jr. Our special guests included Mr. Greenwaldt, President of Du Pont Company, and Dr. Killian, President of M.I.T.

The Long Island Section of the M.I.T. Club held its "Champagne Hour" Dance at the Roslyn Country Club on September 28. Over 45 couples attended and a grand time was had by all. A dance contest was held, and Miss Marilyn Murphy and Mr. Edward Newdale'48 each won a bottle of champagne. The following members and guests also participated: Mr. Edwyn Eddy '32, Mr. and Mrs. Arnold Whitaker'46, Mr. and Mrs. Oliver Hoag'35, Mr. and Mrs. Lloyd Smiley'51, Mrs. Mortimer I. Metzger, Mr. Donald Miller'50, and Mrs. Frank Mevay. Mr. and Mrs. William A. Cresswell, Jr.,'36, were the lucky winners of the door prize.

On Thursday night, October 4, the annual Beer Party was held at Ruppert's Brewery. There were over 200 present. The buffet supper was both plentiful and good and went well with the beer which Ruppert's so generously provided. The Classes of 1922, 1935, 1942, and 1955 participated in competitive barbershop singing. The following were in the contest: The Class of 1922; D. Spoor, F. Kurtz, T. Miller, R. Rundlett. Class of 1935; W. S. Peppler, H. H. Everett, D. K. Finlayson. Class of 1942; R. Greenes, E. D. Friedman, H. Kram, S. Farrington, M. Brown. Class if 1955; I. Rubin, D. Solow, D. Lowen, B. M. Kahn. Honorary quartette; Aaron White and three friends. Dean Lobdell's presence helped make the function a huge success.

The Westchester Section of the Club will hold its Stag Dinner Party on the evening of November 8, at the Scarsdale Country Club. The meeting, which will be presided over by Mr. Lee Bloom'40, will have Mr. A. L. Perlman, President of the New York Central, as the guest speaker.

The Long Island section of the M.I.T. Club has scheduled, for members and their wives, a tour of the United Airlines new maintenance space at Idlewild Airport for 7:00 P.M., November 8. An airline type dinner will be served, possibly in a plane, for a nominal charge. After dinner the group will be shown a film which was prepared by the Port Authority on the International Airport of the future.

Additional details on club activities can be obtained by calling Mr. Fred Parsons at Plaza 5-3094, or by writing to the M.I.T. Club of New York, Hotel Chatham, Vanderbilt Avenue and 48th Street, New York 17, N.Y. — HARVEY KRAM, *Secretary*, 101 Barnyard Lane, Roslyn Heights, Long Island, N.Y.

Northern California

The fifth and sixth meetings of 1956 were held in August (a cool month in the San Francisco area), in addition to our annual picnic. On the 21st, Professor E. E. Allmendinger discussed modern submarine design with a group of 20 members and guests at the New Delmonico in San Francisco. Alumni attending were: W. L. Wetmore'02, A. B. Court '10, J. T. Nichols'22, M. H. Finley'23, H. G. Young'24, R. T. Perry'25, J. Howard Arnold'31, M. Guralnick'33, Bert O. Summers'34, F. F. Noonan'40, D. D. Scarff'41, G. E. Quisenberry'44, V. K. Butler'45, M. J. Gardner'50, W. E. Weissert'51, A. D. McWhirter'54. On the 28th, Professor Harvey Evans (one of the three M.I.T. professors spending the summer teaching naval architecture in Berkeley) showed a motion picture on the construction of the ocean liner *United States*, at the Red Barn restaurant in Berkeley; 24 Alumni and guests were present. Alumni attending were: E. J. Riley'08, E. W. Brown'15, J. H. Cox'23, J. Howard Arnold'31, Bert O. Summers'34, H. C. Zitzewitz'34, C. R. Meurk'42, Alice Heath'42, H. B. Keller'49, R. J. Hoffman'51, J. R. Paulling'52, M. S. Hoppenfeld'52, J. G. Tewksbury'53. On Sunday, the 26th, the annual picnic was held at Flood Park, in Menlo Park. Considering the ideal weather, the attendance was entirely inadequate.

At the February 14 Valentine dinner, in the University of California Faculty Club, George D. Whittle'08 spoke of his trip to Liberia. The March 15 luncheon at the New Delmonico was held on the occasion of a visit by Professor J. H. Keenan'22. In April, Professor R. L. Bisplinghoff of aeronautical engineering was the after-dinner speaker at the Belmont Casino. In June, at the St. Julien restaurant in San Francisco, Theodore P. Moorehead'05 and Mrs. Moorehead described in words and pictures the scenes and customs they had observed during eight years in India. At the June 8 meeting, these officers were re-elected: George B. Hulett'34, President; Wade L. Wetmore'02, Vice-president; Richard T. Perry'25, Vice-president; two members of the Executive Committee, William D. McGuigan'42 and Gregory A. Vincent'30, were also elected. We plan to have six or eight meetings a year; we hope also to increase our attendance above the average of 25 Alumni (plus 10 wives), our roster now being about 1100. — J. HOWARD ARNOLD, *Secretary-Treasurer*, 1058 Pomona Avenue, Berkeley 6, Calif.

Northern New Jersey

At the first meeting of the Board of Governors on September 18, 1956, the major meeting dates for the 1956-1957 season were established, and programs for these meetings were discussed. In addition, a Future Planning Committee, composed of six members of the Board of Governors, was established. This committee will look into the long-range picture, as to how the M.I.T. Club of Northern New Jersey can best serve the Alumni in our area. This committee will investigate the operation of other M.I.T. clubs as well as other Alumni Clubs in the Northern New Jersey area.

It was reported that the M.I.T. Club of Northern New Jersey Scholarship, in the amount of $500, was awarded to Neil Paul Fitzpatrick of Somerville High School, Somerville, N.J. He is now attending the Institute in Course X. This scholarship was made possible by contributions from the Club members, and is independent of the Institute funds.

The M.I.T. Regional Scholarship, covering tuition for the freshman year and paid for from the Institute's Scholarship Fund, was awarded to George Maxwell Walsh of Cranford High School, Cranford, N.J. George is a Course VI freshman. Scholarships run in the Walsh family — George's brother William, now a senior at Tech, was a Regional Scholarship winner three years ago. The two selections were made from a field of 49 applicants.

On Wednesday, October 17, 1956, the fall meeting of the Club was held at the Hotel Suburban, East Orange, N.J. Featured was a talk and a color film on "Glass and You," presented by James V. Matthews, of the Industrial Glass Sales Division, Corning Glass Works. Mr. Matthews presented the history of glass from very early times to the present, and the uses of glass in industry, the home, and in architecture, both as a decoration and as an engineering material. He also covered the epitome of cut-glass craftmanship — Steuben glass. Not only history was presented but also glass manufacturing methods and applications as well as the fabrication of glass laboratory equipment. A discussion period followed during which the speaker answered questions. There was a large turnout of both new and old members for this meeting, and the "Good Old Days at Tech" were relived over the usual refreshments following the meeting.

The schedule for the remaining meetings of the season is as follows: Tuesday, December 4, 1956, program to be announced; Thursday, February 7, 1957, Dinner Meeting and Ladies Night; Wednesday, April 24, 1957, Annual Business Meeting. — JOHN T. REID, *Secre-*

tary, 80 Renshaw Avenue, East Orange, N.J. ROBERT M. GOULD, *Assistant Secretary,* 15 Wellington Road, Livingston, N.J.

Oklahoma

The fall meeting of the M.I.T. Club of Oklahoma was held at the Mayo Hotel on September 25, 1956. Following the showing of the film "SAGE," our guests of honor, Dean Harold Lobdell'17 and Donald P. Severance'38, discussed plans for the forthcoming Regional Science Conference which will be held in Tulsa on Saturday, February 2, 1957. An Executive Committee to handle this Science Conference was appointed by Club President Walter S. Smith'30. This committee is comprised of the Club officers and Messrs. B. E. Groenewold'25 and William J. Sherry'21, with Messrs. Smith and Groenewold acting as co-chairmen.

The following Alumni attended the meeting: Dr. Sumner Y. Andelman'37, Bert B. Beals'54, Julian M. Busby'45, James R. Cowles'37, John P. Dowds'51, Willard S. Emery'50, Wilson N. Gilliat'44, Curtis S. Green'48, B. E. Groenewold'25, Erling O. J. Helland'40, Donal K. Holway '47, William R. Holway'15, Dean Jacoby '54, Breene M. Kerr'51, Omer Kircher'55, Paul A. Lobo'50, Van Luong, Richard Mungen'47, Dr. Frank G. Pearce'46, Dr. Siegfried E. Penner'45, T. W. Gilmer Richardson'42, G. V. Rohleder'48, Robert L. Rorschach'43, Barrett B. Russell'43, Robert K. Schumacher'45, William J. Sherry'21, Dr. Daniel Silverman'29, Walter S. Smith'30, Samuel C. Stephan, Jr.,'50, Charles B. Stuart'34, Charles C. Stueve'49, Robert W. Vahleberg'37, Dr. Scott W. Walker'40. — BARRETT B. RUSSELL, *Secretary-Treasurer,* 4562 East 38th Place, Tulsa 5, Okla.

Rochester

Formal club activities for the 1956-1957 season were started with the annual meeting held at Mendon Ponds Park on September 22. As in past years, an excellent steak roast, together with adequate quantities of beer, were enjoyed by all. The usual baseball game was held between the "Odd" and "Even" classes. The official scorer, a member of the "Even" classes, conveniently mislaid the final score. We enjoyed one of the best turnouts we have had in recent years; 62 members were present, including one M.I.T. coed. Though this annual meeting has by tradition been a stag event, the committee happily made an exception this year, making it possible for "Jeff" Buik'45 to accompany her husband, Charles Buik'45, to the meeting.

Items of business discussed included election of officers for the coming year. Elected were: V. N. Hansford'37, President; J. R. Flynn'50, Treasurer; F. J. Kolb, Jr.,'38, President Elect; R. E. Smith'33 Vice-president; J. K. Littwitz'42, Secretary; A. Mackintosh, Jr.,'44, Assistant Secretary; C. C. Clark'50, Executive Committee Member. Fred Kolb'38, who is heading up our Alumni Fund Drive in the area this year, reported on his trip to Cambridge for this purpose. A committee to carry on personal solicitation of Alumni after the regular mail efforts has been chosen. During the summer, preparations were made to handle this important club activity with a visit from Joe Conrad from the Institute. Dwight VandeVate'28, who has headed our Educational Council so ably since its inception, has relinquished these duties which will be taken over by Harry Essley'36. Dwight, however, will continue to head up our Scholarship Committee. Seventeen scholarship awards were made to freshman applicants for the Class of 1960; a final report on acceptances is not available as yet.

The first meeting of the Educational Council was held at the home of Harry Essley on October 4. Council activities for the coming year were discussed, and the schedule of school visits for Professor Holt Ashley from M.I.T. in November was lined up. It was agreed that Mrs. C. Buik '45 would be available to handle any inquiries from prospective girl applicants to M.I.T. We were pleased to learn that Clarence L. A. Wynd'27 has been renominated as an Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Chemical Engineering. Also, at the last meeting of the Board of Directors of the Eastman Kodak Company, Clarence Wynd was elected a vice-president of the company. He continues in his present capacity as assistant manager of Kodak Park Works.

The next meeting of the Club is scheduled for November with a tour through the plant of Consolidated Machine Tool Corporation. — J. K. LITTWITZ, *Secretary,* 191 Rogers Parkway, Rochester 17, N. Y.

South Florida

Thomas P. Coogan'24, president of Housing Securities, Inc., of New York, and a former assistant secretary of defense in charge of military housing, was the guest of honor at a dinner meeting of the Club in the McAllister Hotel, Miami, on October 18. Mr. Coogan, who is a former president of the Club, expressed his appreciation of meeting so many of his old friends again, but had to cut his remarks short as he was to be the principal speaker at a meeting of the Home Builders Association of South Florida held in the same hotel that evening, which the M.I.T. group was invited to attend. Tom is also a past president of that organization, and of the National Association of Home Builders. At that meeting Tom gave a very informative talk on the situation concerning mortgage loans for homes, asserting that the monetary policies of the Federal Reserve Board were deterring home building by reducing the availability of mortgage loans and increasing their cost. He stated that when a recession appeared imminent three years ago, the Board loosened up on such money, with the result that building construction was overstimulated, and when inflation threatened last year, the Board tightened up again, and mortgage money became hard to get. He did not criticize the objectives of these maneuvers, but suggested that it would be well if some plan could be worked out that would not throw so much of a burden upon a limited segment of our economy. Following this address Tom showed a large number of very interesting pictures which he took in Russia when he visited there as a member of a group sent by our government to study Russian housing.

Altogether, this was a very interesting and educational meeting, which was thoroughly enjoyed by the 30 or more Club members and guests present. Alumni present included: Ralph C. Robinson'01, Kenneth P. Armstrong'10, Lester M. White'12, Frederick B. Philbrick '18, Edward I. Mandell'21, C. P. Thayer '23, Thomas P. Coogan'24, Thomas E. Mattson'24, Richard L. O'Donovan'26, Warren Martell'30, Charles S. Symonds '33, Jack Platt'34, Sidney Mank'37, William Sussman'40, William L. Sammons'43, Scott J. Hoehn'47, Donald L. Brown'51, and David N. Leslie'54. — KENNETH P. ARMSTRONG, *Secretary,* 145 Sesame Street, Opa-locka, Fla.

Washington

The first meeting of the Club for the new year was held on October 11 at the Potomac Boat Club. This was another of our now traditional "annual stag smokers," featuring beer and buffet supper in an old club atmosphere. The evening was highlighted by movies of M.I.T.'s Championship Lightweight Crew winning the Challenge Cup races at Henley on the Thames, England, after an undefeated year in 1954. Narration was by Bill McTigue, captain of the '54 "fifties." The meeting was a great social success and the "cool, refreshing breezes from the Potomac River" were reminiscent of the Charles.

Eger V. Murphree, "Guided Missile Czar" of the Pentagon, addressed the Club on the subject of guided missiles at our meeting on November 29 at the Cosmos Club. Mr. Murphree is special assistant for guided missiles to the Secretary of Defense. From 1922 to 1924 he was on the research staff at M.I.T.'s Laboratory of Applied Science.

Officers for the coming year are as follows: President, Robert W. Blake'41; Treasurer, Michael K. Johns'53; Review Secretary, Chester N. Hasert'41; Assistant Review Secretary, Doug Cook'50; Assistant Secretary, Gilbert H. Lewis'51. Additional Members of the Executive Committee: Joseph V. Gaven'52; F. Charles Mosel'40; C. Ford Blanchard'22. The Honorable Proctor L. Dougherty'97 will again be our venerated counselor.

Andrew F. Hillhouse'43 was elected president for the forthcoming year, but during the summer was promoted to a new job in Des Moines, Iowa. Andy's new job is counsel and assistant secretary of Solar Aircraft Company in Des Moines. Andy had previously been manager of Solar's Southeastern Regional Office, and while here in Washington obtained his Law degree from George Washington University in 1948, and became a member of the D. C. Bar. Taking over the reins of the presidency after Andy's departure is Robert W. Blake'41, succeeding from the vice-presidency.

Another vacancy created by members on the move was the office of secretary, to which Sterling Ivison'41 had been

elected. Commander Ivison, U.S.N., has a new assignment in Coronado, Calif., as production manager of the Overhaul and Repair Department. He sends us rave notices about the San Diego weather. — CHESTER N. HASERT, *Review Secretary*, 1300 N. Scott Street, Arlington 9, Va. DOUG COOK, *Assistant Secretary*, 1625 Eye Street, N.W., Washington, D. C.

Women's Association

The M.I.T. Women's Association began the year with enthusiasm on October 16 at the Faculty Club with its new president, Phyllis Winter Grosswendt'42, presiding. The husbands of members were invited to join us for dinner and to hear Marion G. Hogan'46, president of Weather Services, Inc., who gave a scintillating and informative talk about the nature of her business which specializes in industrial meteorology. Her firm provides pertinent weather information to a number of concerns, among which are the Logan Airport, state and municipal highway departments, bakeries, road contractors, and gas companies throughout the United States.

The dates for future meetings will interest former women students who may be able to time that next trip to Cambridge to include one of the programs which have been arranged by Janet Sanford Perkins'52. At a dinner meeting on December 5, John Arnold, associate professor of mechanical engineering, will explain his course in creative imagination. At the Saturday luncheon on February 16, Professor Klaus Liepmann will tell us about the developments in music at M.I.T. Professor George P. Wadsworth of the Mathematics Department will bring us up to date on "Operation Research" on April 4 at our Faculty Club dinner. Finally, our annual meeting will be held June 8 at the modern summer home of Henrietta Johnson Dane'31, in Manchester-by-the-Sea, where the program will be built around the City Planning Department. Our White Elephant Sale on November 7 will be over, successfully we hope, before you read this. All former women students are always welcome at our meetings. — KATHERINE SALISBURY HAZEN, *Recording Secretary*, 81 Clark Street, Belmont 78, Mass.

CLASS NOTES

1891

Mrs. Thomas B. Carpenter is the one woman member of our Class now living. Her daughter, Charlotte, is the writer of the following letters. To have this message from our class member, whose maiden name was Anne Elizabeth White, seems to me like a Christmas gift, in the December issue of the Review. You know Christmas is our one great humanitarian festival.

"Dear Mr. Brown: Thank you for your letter to Mrs. Thomas B. Carpenter. When she was asked if one of us might answer for her, she patted my cheek, smiled, and said, 'Well!' This is not exactly permission, but perhaps will do, in its way.

"My mother would simply love to think that she, a woman, is among the members of '91 now living. She dearly loved Tech, has talked about it always, and went back in 1949 for the Mid-Century celebration. She returned joyously with a badge and the alumna's usual collection of notes and leaflets. In this house, we eat from Tech Wedgwood plates; our mail is full of Tech literature, which is read avidly; and my mother *was* writing an article on Tech, contrasting the college of '91 with today. Although she did research for this article in Boston I don't think she ever sent it to a publisher. Her great hobby was writing, which makes me wish she were writing this letter.

"For the rest, she is very well, never ill a day, rises early and goes to bed late (rather late) and altogether is our darling. This last may not sound quite dignified enough, but I do not know another way to say quickly that she does more than anyone else to make our life worth-while!

"And now, she would want to send her very best wishes to you and to the Class of '91." Signed by her daughter, Charlotte Carpenter.

In a later letter, her daughter wrote: "In reply to your letter of August 4, my mother does not now seem to remember those fine members of the Class of 1891, whom you mentioned, and yet I am almost sure that *I* remember her speaking to me of some of them, some time ago. As to your most recent letter, my mother's maiden name was Anne Elizabeth White. I think it would be very nice to include that. Please use your judgment about including any part of the following.

"When my mother had graduated from both the Roxbury High School and the Girls' High School, she was thinking rather unenthusiastically about training as a teacher. She loved science especially and, at this time, one of her science teachers encouraged her to apply to Tech for a scholarship. The application was made to, and granted through, Mrs. Ellen H. Richards, thus beginning for my mother a friendship that meant a great deal to her. When my mother finished Tech, she came to Buffalo for her first position, as a chemist at the Schoellkopf Dye Works, today called the National Aniline Company. Mrs. Richards came with her to see that so young a girl was properly settled in a strange city, and to see that she was introduced to some Buffalo families! My mother lived for a time in a boarding house, where she met my father, who had recently graduated from Harvard Medical School. In fact, he had lived in Boston all his life, as had she, but the two had never met in Boston.

"Thank you again for your kind letters. By some miracle each one arrived at a moment when a letter was most needed, and magically caused some difficulty to vanish. Not many letters accomplish so much. P.S. — I have this moment spoken to you on the telephone. Until now I think I have thought of you as an imaginary person. But no longer. The telephone has brought you close to Buffalo." — WILLIAM CHANNING BROWN, *Secretary*, 15 Forest Avenue, Hastings-on-Hudson, N.Y.

1895

A correction in the November 1895 class news! Your secretary inadvertently reported the name of Francois Matthes' widow as Edith Lovel Matthes. It should have been Edith Coyle Matthes. This was the secretary's first error in many a moon. Louis A. Abbott's address in Clearwater, Florida, is now Gray Moss Inn, 200 So. Harrison Avenue.

It is interesting to note that Israel's Eighth Anniversary was celebrated in April with special activities and meetings. Although the State of Israel was established May 14, 1948, it was observed April 16 this year because that corresponds with the date of the historic event, according to the Hebrew calendar which is the fifth day of Iyar. A second gift of $100,000 was given by Gerard Swope to the Gerard Swope Student Loan Fund at Technion Israel Institute of Technology. This fund was established by him in 1954 for the benefit of needy students of the Technion and the Hebrew University in their engineering and technical training. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

1896

The Institute announces that the Charles E. Locke Memorial Fund now totals $10,000 principal (plus accumulated income of $1,242) which amount was attained by adding income to the original principal as proposed in the March 1951 Review. We regret to record the death of Clarence C. Culver, on April 24, 1956. He was a civil engineer, architect, and president of the J. Z. Culver Company of Rochester, N.Y. Some wonder if the Hotel Brunswick is to be torn down because the Gothic Door of the Chapel could not compete with new chapel across the river.

"Will" Coolidge writes that he, his wife, and daughter returned from Europe too late to attend the reunion. "The trip included visits to places of historical and archaeological interest, such as Athens, Marathon, Eleusis, Corinth, Mycene, Epidaurus, Sparta, Olympia, and Delphi. Our most unique single experience was, perhaps, that in Sicily at Mateora. Here are rock masses eroded into isolated columns from 85 to 300 feet high. Monasteries have been built on the summit of some of these pinnacles, in some cases accessible only by rope and net operated by a windlass from the top. We spent a night at one of these monasteries, the Varlaam, which is now reached by flights of stairs. The only other occupants of Varlaam that night were one monk and a caretaker.

"While the Greek people are seemingly happy and certainly have a rich spiritual heritage, their country is very poor. Much of the land is so rocky as to make it very difficult to wrest a living from the soil. We were therefore very much interested in the American Farm School just out of Salonica. It is supported by private individuals in the United States and is doing a fine job, including in the curriculum much practical instruction in engineering, agriculture, sanitation, etc., designed to raise the now very low standard of living

in Greece. It was to us a most appealing form of foreign missionary effort. We made a short visit to each of the Greek Islands: Corfu, Crete, and Rhodes. From the historical and archaeological standpoints, we found Crete especially interesting." — JAMES M. DRISCOLL, *Secretary*, 129 Walnut Street, Brookline, Mass. HENRY R. HEDGE, *Assistant Secretary*, 105 Rockwood Street, Brookline, Mass.

1897

We are pleased to be able to report the following, under date of September 26 from our classmate, Charles L. Hammond, 226 Clifton Street, Malden, Mass., which will be of much interest to all. You will recall his presence at reunions and will enjoy his account of widespread activities as a civil engineer. "Replying to your letter of the 14th instant, I think Wadleigh is somewhat optimistic in thinking that I could write something of interest to the Class. However, I will try to give you some information about myself and my activities which is of interest to me. I have been interested in what other '97 men wrote and hope that I can provide something equally worth while.

"To begin with, I am not eligible for membership in the '21 Club.' After graduating from Quincy (Mass.) High in 1891, I worked 2½ years in Boston as rodman and transitman in a surveying office. I decided that I wanted to be a civil engineer and that to do so I should graduate from a good technical college. I entered Tufts College with the Class of 1897; transferred to M.I.T. two years later and got my S.B. in civil engineering in 1897 at the age of 23.

"I was born September, 1873, in Vineyard Haven on the island of Martha's Vineyard. Like Wadleigh, I had a background of the sea except that his was Navy and mine was Merchant Marine. My father was master of his own three-masted schooner. My maternal grandfather was a retired whaling captain who had sailed from New Beford, down around 'the Horn' and up the Pacific to the Arctic. A voyage lasted until all the barrels were filled with whale oil and the time varied with the luck in finding whales. Sometimes three winters were spent frozen in the ice. My father sailed from New York City mostly in the European trade but now and then a voyage to Cuba, etc. The schooner *Eagle Rock* was launched the day I was born and when I was five months old I sailed in her for France, my first sea voyage. During the next few years I made twelve round trips to France, England, Italy, etc. When I was seven years old I came ashore to go to school in Vineyard Haven. When I was ten and one-half years old we moved to Atlantic, which is the northern end of Quincy, Mass. Atlantic then was only a small country village, and I led the usual boy's life, some work and plenty of fun. Had an old horse to ride, baseball, skating and an old canvas canoe, for which I paid one dollar and which I later sold for the same amount.

"I entered Tufts with the Class of 1897 and two years later transferred to M.I.T. as a special student in the Class of '97. To me there was a marked difference between the two schools. Tufts is a good school with a good course; but there I lived in a dormitory with a satisfactory roommate, I knew every member of the class and almost every one on the campus. I had time to go out for football and baseball practice, even if I didn't make the Varsity team, and I had a very good time without loss of class standing. At Tech I was a special student with extra work to do, knew nobody outside my own course, and commuted daily from my home in Atlantic.

"During vacations I worked as inspector of construction of sewers and waterworks for the Boston Metropolitan Water Board. The chance came to me to go to Nicaragua to help make a survey to determine the feasibility of constructing a ship canal across that country to connect the Atlantic and Pacific Oceans. At that time the United States was seriously considering the building of such a canal somewhere but had not decided where and were investigating several locations. The expedition sailed from the New York Navy Yard on the U.S. Gunboat *Newport* and landed at Greytown, Nicaragua. It was on the *Newport* that I first met George Wadleigh and learned that he and I were fellow classmates, Courses II and I. I was in that country a year and had many experiences which I now enjoy recalling but are too much to include here.

"Upon my return to the U.S. I got a job with a firm of Boston civil engineers and spent the next one and one-half years laying out electric car lines in many parts of New England. Most of those we designed were built and operated, in the days before automobiles and buses drove them out of business. In June, 1900, I entered the employ of the Navy Department at the Portsmouth, N.H., Yard (located in Kittery, Maine). In 1902, I transferred to Fort Dade on Egmont Key, Tampa Bay, Florida, and took along a bride with me, a neighbor, Florence Edith Thomas, B.U. 1901, whose home was just the other side of a picket fence from mine. We went by steamer from New York to Jacksonville, thence by steamer up the St. John River to Sanford, thence by train to Tampa. I proceeded to Egmont Key to arrange for a place in which to live and to report for duty as civil engineer and superintendent of construction. Mrs. H. and I are still living together after 54 years and after knocking around the country. We have two sons, both of whom are M.I.T. graduates: Wilson Thomas Hammond'28, Course I, and Roger Harding Hammond '35, Course XV. We have two granddaughters. After Fort Dade, we moved successively to Washington (twice); Lincoln, Nebraska; Detroit; and Malden, Mass. — all with Civil Service jobs. Also some jobs with contractors. In 1913, I became a structural draftsman in the Public Works Department of the Boston Navy Yard and continued there until December 31, 1944, when I was retired as Senior Civil Engineer of the same department. In all cases I was a civilian, but the title Civil Engineer is also used by the commissioned officers of the Civil Engineer Corps of the Navy, under whom I worked. Civilians are usually automatically retired at age 70, but during World War II key men could be retained on request of the Secretary, which was why I stayed on beyond that age."

A younger friend (M.I.T., 1901) of your Secretary drove us leisurely down to New Brunswick this summer, visiting friends at various places along the Maine Coast en route. Incidentally, at Camden we called on Charlie and Elsa Breed at their attractive home on the shore of Penobscot Bay. We had a warm welcome. From St. Andrews, New Brunswick, we took a steamer over to Grand Manan — a beautiful island about 20 miles from the mainland, albeit somewhat primitive — whose only industry besides summer visitors is fishing and the smoking of herring.

It is our sad duty to announce the death on August 29 of another classmate. The following notice appeared in the Lynn (Mass.) *Republican* of August 30, 1956: "Attorney Francis V. McCarthy, 82, of 25 Lakeview Avenue, who conducted a patent law office in The Item Building, 38 Exchange Street, died yesterday, following an illness of two months. Born in Peabody, Mr. McCarthy was a graduate of Peabody High School, Class of 1892 and Massachusetts Institute of Technology, Class of 1897. He studied with the late Attorney William P. Northend of Salem. Mr. McCarthy was admitted to the Massachusetts Bar in 1901. He leaves his wife, Mrs. Winnifred (Tigh) McCarthy, and a brother, William N. McCarthy of Peabody."

Wishing all a Merry Christmas and many happy and helpful New Years. — JOHN P. ILSLEY, *Secretary Pro-tem*, 26 Columbine Road, Milton 87, Mass.

1898

A testimonial dinner was given to Lester D. Gardner at the Institute of the Aeronautical Sciences in New York in honor of his eightieth birthday, August 7, 1956. Lester writes, "My eightieth birthday was made completely happy by receiving your greetings with 88 other letters, telegrams, cards and telephone calls. . . . Dr. John F. Victory, of the N.A.C.A. and the N.A.A., came from Washington to present a certificate award as Elder Statesman of Aviation. . . ." The certificate reads as follows: "The Board of Directors of the National Aeronautic Association of the United States, pursuant to authority duly vested in it, does hereby constitute and designate Lester Durant Gardner Elder Statesman of Aviation in recognition of his significant and enduring contributions over the years to the progress of aeronautics, and his demonstrated qualities of patriotism, integrity, and moral courage worthy of emulation." We have seen the certificate and it is indeed, in Lester's words, "beautifully designed and bound in a tooled leather cover — a work of fine craftsmanship," and, we may add, a fitting testimonial to our distinguished classmate.

In the August, 1956, issue of the *Aeronautical Engineering Review* under the caption "80 Years Young," there appeared an editorial tribute to Lester D. Gardner. We quote in part: "On the seventh of this month, the Founder of this Institute (The Institute of the Aeronautical Sciences) attained the ripe age of Four Score

Years." Then follows two columns giving details of Lester's accomplishments in behalf of aviation, concluding with the following two paragraphs: "At eighty Lester Gardner is as indefatigable as ever in attacking any problem that interests him, as those of us who tried to follow him in his recent campaign to raise funds for the Jerome C. Hunsaker Chair at M.I.T. can testify. We all join in wishing him 'many happy returns' and many more years of his active and useful life."

Nor is that all. In July, 1956, an Aviation Honors Committee, composed of Luis de Florez, Chairman, James H. Doolittle, Harry F. Guggenheim, Jerome C. Hunsaker, James R. Killian, and Grover Loening, desiring to honor Lester, sent out the following letter from which we quote in part: "This year, 1956, Lester Gardner will have given forty years of devoted and fruitful service to Aviation. We who have witnessed his devotion and zeal in the creation of the Institute of the Aeronautical Sciences and the many other activities which have now become part of the aviation world believe that this would be an appropriate moment to express our esteem and regard for his work and accomplishments. We invite you to join us in expressing our appreciation of his great service by a personal note to him on your letter head or personal stationery." The result? A deluge of letters. In the neighborhood of 500! Lester, with indefatigable energy and persistence, in addition to a gracious general letter of acknowledgment, is replying to all personally, about 20 per day. In his general letter of acknowledgment Lester writes, and we quote in part: "Although your congratulatory letter to me via the distinguished Honors Committee will not be formally presented to me until they are attractively bound, I do not want to wait until then to let you know how much I appreciate your kind message . . . I am sending a likeness taken with a group at the first Hunsaker Professorship Lecture, for which Jim Doolittle, a committee, and I have recently raised $477,000."

Another distinguished classmate, Roger W. Babson, is frequently in the news. Through the courtesy of the Alumni Association, we have a clipping from the *Gazette and Transcript*, Weymouth, Mass., of June 7, 1956, from which we quote in part: "*Babson Discusses Election Years and Stock Markets.* I have been studying the record of business and the stock market in election years since the turn of the century. Is there a definite pattern which we can use to find out where we stand at the present time historically? Can we use this knowledge to estimate what conditions we should expect for 1956? Fourteen elections have come and gone since I graduated from the Massachusetts Institute of Technology. The outcome of the elections, — whether the victor was Democratic or Republican, whether the result was a surprise or cut and dried, whether we were at war or at peace — seemed to make little difference. Political parties spend millions of dollars to arouse the voters to the tremendous consequences of failing to vote the right way. Yet the spending habits of the people have continued undisturbed by the turmoil. Consequently, it seems useless to get too excited about election years. Political activity does not appear to cause any drastic changes in the economy. If business has been good, it tends to continue good. Spotty business continues to be spotty. The nation's economy seems to disregard politics. It depends, instead, upon fundamentals such as the impatience of people to buy merchandise, the willingness of industrialists to expand their plants, the eagerness of bankers to loan money. As a result, I forecast that the volume of business transacted this year will show no substantial change, either up or down, from 1955 levels."

The wide range of Roger's interest is shown in an article written by Betty D. Mayo, which appeared in the *Christian Science Monitor* on October 9, 1956, from which we quote in part (a few paragraphs from 20 odd): "*Open-Door Policy Urged on Churches.* The church which keeps its doors shut every day but Sunday is missing an opportunity for 'great service,' according to the Open-Church Association. This national organization, which has its headquarters here, states that some 30,000 churches in the United States are open a part of every day for quiet thought and prayer. Of this number, about 12,000 are registered with the association. Since 1942, when the organization was incorporated by a group of laymen in Wellesley Hills, Mass., its primary aim has been to encourage more churches, chapels, and synagogues, to remain open and available to people daily. The activities of corresponding with the 12,000 member churches and others interested in the open-church program are carried on at the Gloucester headquarters, formerly the old family home of Roger W. Babson, business analyst. Mr. Babson was one of the principal founders of the open-church movement, which had its beginnings in 1938. Through his support and that of other incorporators, the association is endowed with funds to carry on its work without fees for services or membership dues."

A touch of human interest is as follows: "'A few weeks ago,' remarked a pastor, the Rev. George H. Sinclair, Jr., of the Blue Hills Baptist Church of Hartford, Conn., 'at the time of the Jewish Passover, a man came to the Pastor's study and explained that he was Jewish, and that he desired to meditate during his lunch hour. He read the sign on the bulletin board which says, "Our Church is open at all times to all people," and there being no synagogue nearby, he decided to come in. When told he would be perfectly welcome, he went on into the sanctuary and about an hour later came out and expressed his appreciation.'"

Our distinguished honorary member, George R. Harrison, has written another book. We quote the advertisement by Morrow in the Book Section of the New York Sunday *Times* of September 23, 1956. "Read this book for a greater sense of direction in your own life and the life of the changing world. *What Man May Be — The Human Side of Science*, George Russell Harrison, Dean of the School of Science, M.I.T. An entertaining and provocative writer who excels at the difficult task of interpreting for the layman the world that science reveals, and whose *Atoms in Action* has been translated into ten languages, presents a realistic, supremely lucid book that relates man as a human being to the complex world of today. He deploys the whole body of modern science before the reader — from psychology to astronomy, from biology to nuclear physics. Underlying the facts, interwoven with them are the cogent observations of a mature mind and a lifetime philosophy — that science and religion are compatible."

We have been greatly refreshed during the past year by visits and letters of classmates and friends of '98; which, in the words of Charles Dickens in the immortal *Pickwick Papers*, "for reasons of sufficient importance on this eventful history, will be narrated in another chapter." There are a few items, however, which cannot wait. We regret to record the passing of another classmate, William A. Marshall of Rumney, N. H., on August 20. Dear Billy. We shall miss him. I remember him well with his pleasing smile and gracious manner.

New addresses: Maurice F. Delano, Blakely Road, Haverford, Pa.; David C. Fenner, 63 E. 9th Street, Apt. 12F, New York, N. Y. Kindly note that as of October 27, the Secretary will move in to Boston to The Eliot, 370 Commonwealth Avenue, Boston, which will be his address for six months, after which he plans to return to 2 Gregory Street, Marblehead, Mass.

This issue being the one just prior to the coming holidays, we will take the opportunity in the name of the officers of the Class to wish all the boys and girls of '98 a very Merrie Christmas and a very Happy New Year. — EDWARD S. CHAPIN, *Secretary*, The Eliot, 370 Commonwealth Avenue, Boston, Mass.

1899

In a letter from C. Gardner Barry, V, of Sandwich, Mass., he reports the death of his wife, Martha, on September 8, after a long and painful illness. This comes as a shock to your Secretary, for Gardner was a course mate of mine and we commuted on the same trains during our four years at Tech. Moreover, Gardner is a cousin of my late wife, so I have known Martha for many years. Perhaps those of you who have attended our reunions may remember her. Gardner was a senior engineer on the Cape Cod Canal for many years and has resided in Sandwich ever since.

Fred Waddell reports the marriage of his daughter on August 25, to a close friend and neighbor, Warren H. Hubbard. She has two daughters by a former marriage, and he, three sons. Two of the sons are married, but with Fred living in a household of four, he will not be lonesome. Fred's new address is 639 Fourth Avenue, Bethlehem, Pa. — BURT R. RICKARDS, *Secretary*, 173 Edgewood Avenue, Pleasantville, N. Y. MILES S. RICHMOND, *Assistant Secretary*, Little Compton, R. I.

1900

We have received the following brief account of Cliff Leonard's history. "Clif-

ford Milton Leonard, 76, passed away on Sunday, September 9, at his Lake Forest, Ill., home after a prolonged illness. Mr. Leonard was born in Chicago, Ill., on December 24, 1879, and graduated with a Civil Engineering Degree from Massachusetts Institute of Technology in 1900. In 1905 he organized the Leonard Construction Company of Chicago, Ill., and was President of this Company from 1905 to 1950 and Chairman of the Board of Directors up to the present time. Mr. Leonard was a member of the War Finance Board during World War I and for a number of years was a Director of the First National Bank of Chicago. He was Chairman of the Board of Directors of the Beacon Oil Company and the Louisiana Oil Refining Corporation. Mr. Leonard was a charter member of Chicago Racquet Club, life member of the Chicago Art Institute and the Chicago Historical Society. He was a member of the Chicago, Onwentsia and University Clubs in Chicago and The Racquet and Tennis Club in New York. He was a member of the American Society of Civil Engineers and Western Society of Engineers.

"Mr. Leonard is survived by a daughter, Mrs. Fleury Rice, a son, Clfford Leonard, and three grandchildren, Clifford Leonard, Jr., Virginia Leonard and Fleury Elting."

A clipping from the Providence (R. I.) *Journal* of August 24, 1956, gives us the following: "Charles J. Davis, 82, of 167 Massachusetts Avenue, retired civil engineer who formerly was employed in connection with the construction of the Pawtucket-Central Falls railroad station and the 8th Avenue subway in New York, died yesterday at Rhode Island Hospital after a short illness. He was born in North Chelmsford, Mass., May 5, 1874, a son of the late Joshua F. and Ellen M. (Cummings) Davis. A graduate of Boston English High School, he attended the Massachusetts Institute of Technology and entered the employ of the New Haven Railroad. He came to Rhode Island in 1918 when he was engaged in work on plans for the Pawtucket-Central Falls station and the freight classification yards in Pawtucket. Later he joined the engineering staff of the Board of Transportation of New York City, where he worked on subway construction plans.

"Retiring from the New York City job at the outbreak of World War II, Mr. Davis was employed by the Sikorsky Aircraft Corp., Bridgeport, Conn., until his final retirement in 1947. Mr. Davis was a deacon of the Friendship Street Baptist Church and was a member of the Gideon Bible Society. He is survived by his wife, Mrs. Gertrude M. (Lewis) Davis; two sons, Charles J. Davis, Jr., assistant retail advertising manager of the *Journal-Bulletin*, and Dr. George W. Davis, both of Edgewood; a sister, Mrs. Jennie A. Farnsworth of North Chelmsford, Mass., and seven grandchildren." — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

1901

The notes this month will be rather brief as my days seem to be filled with much work. I regret to report the death of Charles Butters, I, in Watertown, Mass., in August. He was employed by the government for 30 years in the construction and operation of the Panama Canal. He began his engineering career on the Wachusett Dam. In 1904 he went to the Canal Zone and became the first canal employee to complete 30 years' service with the government. He worked in a dredging division after the canal was built. He leaves a son and two grandchildren.

Harry Allen, VI, from Maplewood, N. J., writes: "Maybe it is modesty that inhibits setting down personal affairs. However, perhaps some of this may be of interest. Mrs. Allen and I have continued to live on at our Maplewood home after our son married and is living in New Orleans (a chemist with Armour and Co.), and our daughter is also married and living at West Falmouth, Mass. She and her husband are associated with Woods Hole Oceanography Institute and have a small farm at West Falmouth. As grandparents we have six grandchildren and spend some time visiting them. We are toying with the idea of making Falmouth our home so as to be nearer to some of our family."

From Winthrop St. Clair, IV, Boston: "Have been busy with architectural problems recently. The most important is a 170-room motel at 1200 Beacon Street, Brookline. It is a new type of construction and has created considerable discussion and favorable comment." Ben Clark, II, Washington, N. J., says: "I enjoy your notes but regret that my doings are too commonplace to be of interest."

W. W. Berard, XI, Chicago, sends the following: "Fifteen years ago I was retired as Western Editor of the *Engineering News-Record* and the next day went to work as City Engineer of Chicago. My friends, with tongue in cheek, remarked that at last I would have to go to work. I have. Two years ago under a reorganization, the title of City Engineer was abolished and the duties split up under the Department of Public Works and Department of Water and Sewers. In the latter I am Deputy Commissioner for Water and Chief Water Engineer. A 1956 budget, of 36 million dollars, indicates plenty of responsibilities. Personally I aim to visit California twice a year to see my daughter in Sacramento and my brother in Ontario, California. Of 7 grandchildren, 2 are in college, one in the Army, 3 in high school and the youngest in grade school. I still sing in a Barbershop Chorus which, once a year, gives a concert in Chicago's Civic Opera House. Singing has therapeutic value for me."

A recent communication from Ed Seaver says: "I will be leaving for Florida shortly to continue my endeavor to prove that if one can spend the winter in Florida every year it will add ten years to one's life. I hope to drop in on Phil Moore on the way south and to see Milton Hogle again for the fifth year. We meet for lunch once every week from December 1st to April 15th and we both look forward to it." — THEODORE H. TAFT, *Secretary*, Box 124, Jaffrey, N. H. WILLARD W. DOW, *Assistant Secretary*, 78 Elm Street, Cohasset, Mass.

1902

Redfield Proctor writes: "I think I can contribute little to your campaign for class news, but Dan Patch and Arthur Collier have both turned the heat on me. Certainly my life has not been an exciting one and, like most of us, I shrink from thinking of the many things I have not done or might have done differently, or should have. I am glad I have lived mostly in the country, for I am sure I have been better off there than I would have been in a large city. Ever since college I have been connected with the Vermont Marble Company business, quarrying, fabricating and importing marble — for every purpose we can think of from dust as fine as tooth powder to huge pieces like the Detroit bowl and the Oregon Capitol statuary. Some of my business experiences and contacts have been interesting, particularly in the acquaintances they have brought. I have in mind several years as a director of the United States Chamber of Commerce, of the National Association of Manufacturers, and of the New England Council, and a shorter period on the National Industrial Conference Board. I can't say I recall with pleasure my very tame experience in the United States Engineers in the First World War. There is, of course, quite a thrill in being Governor of your state, even if it is a small state and one with less trying and straining experiences normal in many of the larger states. It is a real honor and gratifying evidence of trust on the part of your fellow-citizens, and believe me, besides that, a few years in the State Legislature add much to one's education.

"But the most interesting experience of an impersonal and public nature, and one from which I have gotten the most real pleasure, is one I owe to my classmates and fellow Alumni of Tech. I refer to my election as a member of the M.I.T. Corporation. After one five-year term one can't succeed himself, but in a year you fellows re-elected me, and when that term ended the Corporation elected me for life. I have finished twenty-two years on the Executive Committee, which is the group that really decides the policies that Tech adopts and follows, on the President's recommendations. I have recently resigned from the committee as it means always one and sometimes two trips a month to Boston, and it is better for a younger man to take over. Dr. Vannevar Bush has done so — a very much abler man for the job. It has been most interesting work. The Faculty and administrative staff (of course I came most in contact with the latter) are a very unusual group — some truly exceptional men for their jobs. Tech's standing is now such that it can get almost any man it goes after, and very seldom any top-quality man leaves. I have known some of the staff; men like Prescott, Bush, Harrison, Soderberg, Ford, Stratton, Snyder, and a few others, very well, and they are exceptional. The place never had a better crew on board to run the ship than it has today. I have seen it under three presidents, two of whom I have known well — Compton and Killian, and while very different they have both done their jobs

outstandingly. When I was first elected, Tech had 2,949 students and $17,189,000 endowment. It now has 5,500 students and about $80,000,000 endowment. This gives an idea of its rapid growth in recent years. Certainly as an all-round education center for Science and Engineering, undergraduate, post-graduate and research, it is at the top in this country, and probably in the world.

"I have retired from active business, but still find some interesting things to fill my time. Am sorry none of my '02 classmates live within social distance of me. Henry Stimson, who did, and I were planning, and already had had some good times together just after he retired from the American Telephone and Telegraph Company but we soon lost him. Two others among my closer friends are gone — Pollard and Seabury."

From the Alumni Office comes word of the death of Henry McBurney in June, and that of Edward H. Cutter on September 5. At the time of writing these notes, it is a beautiful October day such as only New England can produce, but as these are for the December issue I will wish you all a Merry Christmas. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

1903

H. S. Baker writes that he is doing his bit in Civil Defense by serving on regular watch schedule with the Ground Observer Corps. His son Edward is now operating the dairy farm, while Horace keeps in form, raising flowers, fruit, and vegetables on his farm in Pennington, N. J.

Through an error in spelling, the death of Claude H. Cooper, September 30, 1955, was reported as Hooper, in the March issue of the Review and stated in the Class Notes to have been a member of Delta Tau Fraternity instead of Delta Upsilon. Our thanks are due to F. S. Bradley for the correction.

George H. Donham has the distinction of passing only his 18th birthday last February 29, 1956, while celebrating his 50th wedding anniversary the previous July. Since his retirement from defense work in Worcester, Mass., he maintains his interest in chess playing, and is a trustee of the Upton, Mass., Public Library.

Robert J. King, New Canaan, Conn., was awarded an honorary Doctor of Science degree at Piedmont College, Demorest, Ga., last June. King is owner of a chemical company in Norwalk, Conn., which he established over 30 years ago. At one time he worked for Thomas A. Edison. The degree citation reads: "In recognition of his unflagging zeal for the discovery and application of truth in all areas of human endeavor."

Supplementing information published in the January, 1956, issue, concerning Harry G. Nutter, deceased, he served as city electrician and superintendent of wires in Chelsea, Mass., from 1908 to 1918; served with the Massachusetts State Guard during World War I; employed by the Northern N. Y. Utilities Company at Potsdam, N. Y., for 13 years, then transferred to the Niagara Hudson (now Niagara Mohawk) Company in Syracuse, N. Y., as electrical engineer for 15 years, until his retirement in 1946; subsequently, he was connected with the Screengraphic Art Company of Syracuse for several years, until forced to give up that work by failing health. He is survived by his widow, Edna J. Nutter. They had two sons, both now deceased. The elder, Wesley, graduated from Clarkson College, Potsdam, N. Y., and worked for the General Electric Company until his death at the age of 41. One year previous to his death he was made manager of the new G.E. Communications Laboratory at Utica, N. Y. Our sympathies are extended to Mrs. Nutter in her double bereavement.

Dr. Andrey A. Potter, Dean Emeritus of Engineering at Purdue University, was awarded the honorary degree of Doctor of Engineering at Michigan State University, June 10, 1956. The citation reads: "Through a long career of teaching, you have stimulated and guided countless students at Kansas State College and Purdue University. In your capacity as Dean of Engineering at both these institutions and at Michigan State University, you labored diligently and effectively to better the facilities, widen the scope and improve the quality of instruction and research in engineering. In the midst of this busy career, you also found time and energy to serve industry and government in many ways." Dr. Potter is also President of Bituminous Coal Research, Inc., and a member of the board of the National Science Foundation, besides being engaged in other consulting work. A grand record, Andrey!

Mrs. Ralph B. Yerxa writes appreciatively of the privilege of attending, with Ralph, a dinner meeting of the M.I.T. Club of Virginia on June 21, at the home of John Skelton Williams, Jr., in Richmond, which was addressed by Prof. Brooks, our Dean of Industrial Management.

The death of Charles H. Roberts, Course VI, on January 24, 1956, came after a short illness at his home in Braintree, Mass. He was long employed as Plant Superintendent at the Taunton Rubber Company. He attended Westbrook Seminary before entering M.I.T. His wife, Mrs. Bertha P. Roberts, a son, Kenneth H. of Hanover, Mass., two grandchildren, Mrs. Frank Miller of Rockland, Mass., and Thomas B. Roberts of Hanover, Mass., and two great-grandchildren survive him.

More particulars concerning the death of Henry G. Harris, Course XIII, which occurred December 25, 1955, have just been received. He was stricken suddenly by a heart attack, after having nicely recovered from a similar attack some eight years previously, so that he was still able to go to his office daily. He was a member of the American Institute of Architects Steel and Square Club, and also of the Specifications Club. Mrs. Harris writes that they celebrated their golden wedding anniversary in September, 1955. They have two daughters and one grandchild. During World War I, he was employed at the Sqantum Base and, since 1919, engaged in architectural work in New York City.

Gilbert H. Gleason, Course V, writes that he will soon be leaving Summit, N. J., for St. Petersburg, Fla., Hotel Ten Eyck, and hopes that the reunion at Clewiston will again be held this year to enable him to contact many classmates wintering in Florida. — LEROY B. GOULD, *Secretary*, 36 Oxford Road, Newton Centre 59, Mass. F. A. EUSTIS, *Treasurer*, 131 State Street, Boston 9, Mass.

1904

As the date for submission of material for an issue of Class Notes in the Review approaches, nears, and finally passes, there comes a time, known to all secretaries, when he fears there will be nothing to record. Such a time is now at hand with me, but I sincerely hope I can find something to prevent a total void. These notes are written on October 16, and you will be reading them two months later. So as I write them I hope you all *will* have a beautiful Thanksgiving, and as you read them I hope you have that feeling of complete satisfaction that results from having had a fine Thanksgiving's dinner with all its fixings.

I have talked with Dave Sutton and Gus Munster and find them both to be much improved over their conditions at my last report, and they are both now able to get out and go into Boston whenever they feel the urge to go. President Hayward no longer lives at President's Lane, Quincy. He has given up his suburban residence and is now living at 120 Beacon Street, Boston, and says he likes city residence a lot.

We are assured of the recognition of the ability of our classmates by the following clipping from the Norwalk (Conn.) *Hour* of October 2, 1956, relating of the appointment of one of our classmates, Currier Lang, as the chairman of an important committee in that city. The clipping reads, in part: "Currier Lang, a member of the Board of Directors of the Norwalk Hospital, was named chairman of the Citizen's Action Committee at that group's first formal meeting Monday night in the Norwalk High School Library. The committee, appointed by Mayor George R. Brunjes, is composed of leaders in business and civic life and will act in an advisory capacity to the city's chief executive.

"Mr. Lang called on the group to act as the co-ordinating agency among the many city departments concerned with development of the city. He stated that the group must 'build up prestige in the minds of the public,' adding that 'We will be judged by that same public solely on our action.' . . . A guiding policy was read to the group by Mr. Lang, 'in order that the committee's work may be of the greatest value to the program, and that its recommendation may be respected by the public.'" From the clipping it would seem that Currier has his work cut out for him for some time.

I have only one death to record this month — that of Brigadier General Richard K. Hale, known to us as "Dick," who died at his summer home in Dennis, Mass., on September 17, 1956. The following clipping from the Boston *Globe* of September 19 gives a very good story

of Dick and his military and engineering career. Dick was a fine and very capable man and one who will be missed in many places. The clipping, in part, follows: "Brig. Gen. Richard K. Hale, 76, former associate commissioner of the State Department of Public Works and a director of the Waterways Division, died yesterday. A native of Boston, he lived at 559 Chestnut Street, Brookline, for 40 years. He died at his summer home here on Main Street. . . . Gen. Hale entered the Department of Public Works following his discharge from active duty in 1919. He served with the Army through the Mexican War and World War I. He was appointed chief of staff of the Yankee Division in France and served on Gen. Pershing's staff. He was promoted to brigadier general with command of the 51st Artillery Brigade, Massachusetts National Guard, in 1921, retiring five years later.

"A civil engineer, he received his A.B. from Harvard University in 1902 and S.B. from the Massachusetts Institute of Technology in 1904. Following his appointment as associate commissioner in the waterways division, the entire public works department was reorganized in 1927. He was named associate commissioner of the new organization. In 1938, he was appointed director of the division of waterways. He held this position until his retirement in March, 1950. He served also on the metropolitan planning division and the state reclamation board.

"The long-time public servant was active in social groups, too. He was former state president of the Society of the Revolution, and member of the St. Botolph and Harvard Club of Boston. He was a member of the Society of Colonial Wars and the Military Order of World War I. Surviving are a wife, Mary (Dean Pierce), and two daughters, Mary D. and Joanna, all of Brookline."

There seems not to be any more news, or if there is, it has not come to my knowledge, and so I cannot share it with you. And now as I close the December notes, I will peer into the future and wish for you all a very pleasant holiday season, with a Merry Merry Christmas and a Happy New Year which shall be filled with joy. — HENRY W. STEVENS, *Secretary*, 1082 Commonwealth Avenue, Boston 15, Mass.

1905

You have received, by now, Bob McLean's latest report as class agent in regard to our showing on the Alumni Fund; also direct from headquarters, the Annual Report on the Fund. Bob feels that our showing (44 per cent of the Class contributing) is not representative of our Class spirit, as he knows it. Bob has done a mighty fine job for us, so let's show our appreciation, by responding to his appeal in keeping with our respective means.

Class reunions, even small in size, continue. Recently, Hub Kenway, Bill and Alice Spalding joined Grove and Helen Marcy at a reunion at their farm in Franklin, N. H. The following day they motored to my summer home on Lake Winnepesaukee, where we were joined by Helena Davis, Ros's widow, and much reminiscing was done. Helena is living with her daughter and son-in-law (the village doctor) at Sandwich, N. H., and in the spirit of independence is building a home of her own in a beautiful spot with a spectacular view of the Sandwich Range. She wished to be remembered to all her '05 friends. In the last issue, I neglected to record the sad death of Hub's wife after a long and painful illness. I am sure all Hub's friends will sympathize with him. By the way, there are doubtless other reunions of '05 men throughout the country from time to time. Don't hesitate to report them to your secretary. Your classmates are always interested in news which may seem of minor importance to you.

Recently, I had a long telephone talk with Fred Pirie, II. He has recovered quite satisfactorily from a serious heart attack, and is able to spend a few hours each day at his office in Lynn, Mass. You must not tire of hearing of the achievements of Andy Fisher's children. I don't, and I hear of them very frequently. Just to prove of the accuracy of his statements, dig up the October 8 issue of *Time* magazine and read pages 76 and 77. Edith Hunter is Andy's youngest daughter.

Last month, in reporting the death of Maurice Landers, I promised, if space permitted, to print an eulogy "When A Man Goes Home," written by a close personal friend. "Amid the blazing splendor of Monday's summer sun, a little group of loved ones laid away the tired body of a very unusual man. Inventor, patent attorney, inveterate questioner of nature and of philosophy, he was constitutionally opposed to panoply and eulogy. And so the order of his burial was as unusual as the modest tenets by which he had ordered his way of living. By his direction, there was no ceremony at the graveside; no minister, no singing, no ingathering of friends to pay tribute to his memory. The absence of a preacher and of ritual did not mean in any degree that he was agnostic or in rebellion against his Maker. On the contrary, he was devout in his belief and practice as to prayer. He held that communion between the creature and the Creator were essential to life. He accepted without argument the invitation of old: 'Come unto me all ye that labor and are heavy laden, and I will give you rest.' He was the sort of man who will be needing ten thousand years or so to look into the works of God's pocket watch — which we casually refer to as the universe. He was the sort of man who will delight to sit down somewhere with Paul, and Socrates, and Peter Marshall, and listen to their talk of righteousness, and temperance, and judgment to come. And if there be any odd jobs to be done about heaven, where a little ingenuity and a little adjusting will make things smoother and let celestial machinery function better, he will be happy to be of use again. It was without words on Sunday morning that he turned his head, let out a sigh and entered into the rest that remaineth for us all. And so, on Monday afternoon, as he had requested, ashes returned to ashes and dust to dust without words or ceremony. That is to say, there was no eulogism, no spoken word for men to hear. But as the Columntator witnessed the lowering of the casket into the bosom of the kindly earth, there came comforting words of long ago: 'In my Father's house are many mansions; if it were not so, I would have told you.' There was no need of lips to say them again. There was no need of praise for the good works of a man who delighted to serve his friends without recompense or thanks. There was no need of a great company to stand and say a tearful good-bye. When a man goes home, it is not good overmuch to weep. At least it was so that our friend liked to have it at his going home. But there was a sermon at the side of the grave. The sun preached it. And the birds sang of hope and not of sorrow. For high in the afternoon sky, the sun seemed to say: It is never night where the Light is. And the God of Light where no darkness is shall wipe all tears from our eyes. So the sun seemed to say. And, in the trees over the way, the birds seemed to sing 'Amen' in the notes our friend had known and loved. So it was and so he wished."

Howard H. Flagg, II, died at his home in Detroit on May 3, 1956. No details available at this writing. Dr. Francis W. Regan, who was with us for a short time in our freshman year, died at his home in Brookline, Mass., on January 18, 1956. David R. Davis, V, died in Brooklyn, N. Y., on September 16, 1956. These recordings are a sad part of the secretary's job, but on the brighter side my records show that 55 percent of those who graduated with us are still living. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass. GILBERT S. TOWER, *Assistant Secretary*, 35 N. Main Street, Cohasset, Mass.

1906

These notes are being written with autumn foliage a blaze of glory, but when you read them we may have had a snowstorm and Christmas will be in the offing, so let this be a personal wish to you all for a memorable day. June and Reunion were memorable days too. Some of the record was held over, and one of the interesting features of the after-dinner doings was Tom Hinckley's presentation of his painstaking research into our class history. Tom thinks many of those present missed a lot if what he read and, thinking that others also might be interested, has kindly consented to allow the secretary to send a copy on request — the catch being that the letter should tell something about yourself, retired and/or what doing, names of children, their college and business or profession, if married and to whom, their children, highlights of your business or professional career, civic activities, memberships, et cetera. There is still talk of a full history book, and what do you think of the idea?

Tom first gave some statistics as follows: Institute records show that 278 S.B. degrees were awarded in 1906 but only 190 to regular four-year students according to the annual report of President Pritchett. Angelo Heywood, our first resident secretary, states that only 167 degrees went to "regular" 1906 gradu-

ates, but whatever the number, it soon lost all significance through the addition to the class list of all those who had any affiliation with us during 1902-1906. In 1916, Jack Norton's book shows 578 names, and the most recent Alumni Register shows 581 of whom 342 were then living. This latter figure is about 100 more than are in the file maintained by the class secretary. Tom then listed the men who had held office through the years and told about the various reunions and class meetings. Seventy attended the first one in 1907 when a constitution was adopted but it proved to be too complicated and was later replaced by a much simpler one (see appendix in the 10-year book). Thirty showed up in 1908, although 57 attended the "Pop" concert that evening. The second "All Technology" reunion came in 1909, and about 50 sailed down to Nantasket, participated in the parade there and put on a class "stunt," returning to Boston for a banquet, Pops, and "a final burst of enthusiasm on Rogers Steps." In 1911, a five-year reunion was held, with some thought of a class book but dropped because of "insufficient funds." In 1913, twenty-one attended a "Potlatch Chantant" at Mechanics Hall.

The year of 1916 was the big time — 97 took part in the parade at Nantasket and put on an elaborate and clever stunt, throwing bags of money into a good likeness of Rogers, whereupon it opened up to show the new M.I.T. across the Charles. That night we had the class banquet at the American House (where we had held the class dinner on May 31, ten years before, ushering in our Commencement Week). Many of the Class attended the various events that June when the Institute moved from Boylston Street and dedicated the New Technology. From 1916 to 1920, the First World War and its aftermath kept most of us too busy for any gatherings; 70 men were in uniform and many more engaged in other phases of the defense effort. In 1920, the first outing away from Boston was held at Powder Point in Duxbury, jointly with the Class of '05, and '11. In 1921, our 15th was celebrated at the Oswegatchie House in Waterford, Conn. (Your secretary has been entertained near there and shown where it stood on the bank of the Niantic.) Twenty-three attended, played golf and tennis, had a swim and took in the H-Y boat race on the Thames at New London.

In 1923, for the first time the wives were included, and four couples and two stags paid a return visit to Waterford, again taking in the boat race. The year 1925 was another "All-Technology," and after those doings, 12 men went to Straitsmouth Inn at Rockport to play golf. The 20th was at Boxwood Manor in Old Lyme, Conn., with 12 couples and 16 stags, and also Eleanor Manning. Bill Furer came on from Honolulu for it. Souvenirs were distributed, and Miss Manning, on behalf of the Class, presented Jim Kidder a very choice table which still occupies a corner of his living room. From that year through 1930, Tom says that no out-of-town gatherings were held, and for our 25th the Oyster Harbors Club on the Cape took good care of an enthusiastic group of 25 couples, 14 stags, and Miss Helen Hosmer. Numerous guests and members of the younger generation were also present. Sid Carr came on from Hawaii and distributed leis to all and sundry (plus a kiss or two, Tom says). Oyster Harbors was so popular we returned in 1936, with 16 couples and 7 stags present. It was another gay party with golf, sailing, dancing, and bridge. Jim was given a golf bag and clubs. In 1941, Joe Santry sponsored a reunion at the Eastern Yacht Club at Marblehead, and gave us a pleasant sail along the shore. Of course there was golf too. Thirty-five enjoyed a fine dinner, and although it was supposed to be stag, six wives crashed the party. For the 40th we went to East Bay Lodge. The swimming was good, Andy Kerr led a tour of the Cape, we saw moving pictures of the Far West, Harold Coes described his experiences in India, and — you guessed it — there was golf. Eighteen couples and 11 stags attended, and a total of 43 grandchildren was reported. In 1951, 15 couples and 10 stags gathered at Snow Inn at Harwichport for our 45th. Weather was cool and only a few hardy souls went swimming, but those bull sessions occupied most of the time. Some had a sail, and for the fourth time Allyn Taylor led the golfers and was given permanent possession of the trophy. Sherm Chase gave an illustrated talk on his European trip, and at the class meeting a full slate of officers was elected to get busy on our golden anniversary.

In a recent letter from Jim, he says: "The effectiveness of this organization was demonstrated by the success of our 50th reunion. It is gratifying to feel that all who attended had such a fine time, and as Reunion Chairman I wish to express my thanks to the other class officers, to Terrell Bartlett and Tom Hinckley for their talks at the class banquet, also to all those who responded to the request for dues and who contributed to the Class Gift to the Institute, so ably handled by Class Agent Sherman Chase. I think the Class should be very proud of our gift, which was about $40,500." Incidentally, and for the record, the gift included $500 from the class funds — voted at the banquet — and around $5,000, the total amount accumulated from income since 1936 when by bequest Miss Lillie Collamore Smith left $2,399.65, "to the Alumni Association of said Institute, to be expended for the benefit of its Class of 1906." At a meeting in March, as Jim reported in the June notes, the class officers (E.B.R. absent) voted to instruct the Alumni Association as to its disposition, and, on May 3, the secretary of the Association wrote your class officers as follows: ". . . the Executive Committee of the A.A., at its regular meeting of April 30, 1956, voted to direct the treasurer of the Association to transmit the balance of the Lillie Collamore Smith fund as of June 30, 1956, to the treasurer of the Institute to be added to the 1956 Alumni Fund and there credited as part of the 50-year Gift of the Class of 1906."

It seems fitting to here pay tribute to Miss Smith by acknowledging her gift and her affection for the Class which doubtless inspired it. She was a teacher in the Brookline High School all her adult life, eventually becoming the head of its domestic science department as well as teaching chemistry, and she also lectured for the State Board of Education. Her generosity and thoughtfulness seem all the more impressive because according to the Alumni record she was with the Class only in 1903-1904, having previously taken Course V in 1898-1900. She had responded to every request for class dues up to her decease in 1935 — certainly an inspiring example of loyalty to M.I.T.

There are numerous other examples of that loyalty; for example, the 12 years that Henry Darling served as Class Agent, and Sherm Chase's work for the Alumni Fund, which was given due recognition at a Class Agents' Conference recently, where he was presented with an autographed copy of Sam Prescott's *When M.I.T. was Boston Tech*, and three long-playing records of music performed on the chapel and auditorium organs. The Class of 1906 had the largest percentage of its active members contributing to the Fund last year of any class. In May, Sherm read a paper at the Diamond Jubilee Conference of the American Water Works Association in St. Louis, entitled "75 Years of Progress in Water Supply Engineering," and, as this is written, Sherm and Bertha are in California, stopping a few days in San Francisco on the way to Los Angeles to attend the annual convention of the Federation of Sewage and Industrial Wastes Associations, where he will receive the Charles Alvin Emerson medal for his fine work in that field. Returning, they will stop in Pittsburgh to attend the annual meeting of the American Society of Civil Engineers, at which time George Burpee will be given an Honorary Membership. Thus do honors come to outstanding members of our Class and their profession.

Two deaths have occurred since the reunion, we regret to report. Mrs. Breitzke notified Sherm of Charles' death on July 29, and in replying to a letter of condolence and sympathy from the secretary she said: "Carl really had a tough winter. Three years ago in May he suffered a heart attack and was forced to retire. He remained active and was very much interested in water problems in N.J. Last October he developed a clot in the femoral artery which was removed surgically. His circulation was so impaired that for a while it was a question whether or not his leg would have to be amputated, but fortunately that did not have to be done. Between the 8th of October and December 30 he had three operations and came through beautifully. All spring he was able to work in the garden but tired easily and was often disturbed because he could not accomplish the things he planned to do. The morning of July 28 I found him unconscious and his right side paralyzed. He passed away the following day and I am grateful he did not suffer. So another great life has come to an end, but he left his mark here."

Mrs. Breitzke has kindly provided a clipping from the Boonton, N.J., *Times-Bulletin* and an abstract from *Who's Who in the East, 1951* from which items, plus the class records, the following is taken: Charles Frederick Breitzke was born in Newton, July 8, 1884, attended the New-

ton public schools and received his S.B. degree (in Course XI) from M.I.T. in 1906, having been a member of the C. E. Society, Civic Club, The Institute Board, on the track team and center on the class football team. After graduation he was successively associated with several firms of sanitary engineers; the New York City Water Department, New York State Department of Health, the Jersey City Water Works as Sanitary Engineer in 1913, the New Jersey Water Policy Committee, the Passaic Valley Flood Control, and since 1937 a member of the New Jersey State Department of Conservation and Development in the division on planning and development. Charles was a member of the A.S.C.E., the A.A.A.S., the Mountain Lakes Glee Club, and Morris County Engineers. He also was author of *Family Budget Made Easy*. He married Francis Bailey Seeley in 1913, and their daughter is Mrs. Jane Loomis. In 1939, he married H. Rosa Schnabel. He had two brothers and six sisters, several of whom he visited in the Newtons instead of going to Snow Inn, which Mrs. Breitzke very wisely thought would be too much activity. We were all so pleased to have Charles and his wife with us at the Friday exercises and luncheon and on Alumni Day, and can admire the spunk and loyalty that brought him.

Another death is that of Karl Prang Heinzen, VI, on September 25, at the age of 71, in the Cape Cod Hospital at Hyannis, his home address being Waban. Although he had always lived in the Boston area, Karl had no interest in, or contact with, the Class and possibly was with us only freshman year. He had always been an importer of hides and skins. Interestingly, he was a grandson of Louis Prang of Roxbury, who is credited with creating the first Christmas Card in America. Karl is survived by his wife, Marjorie (Clarke), a daughter, Mrs. Niels West-Larson of Spain, the former wife of actor Cornel Wilde, and a granddaughter, Wendy Wilde of Beverly Hills, Calif.

Of special interest is a postcard which Jim received from Terrell Bartlett, dated August 1, on the *America*, and postmarked Cobh, Ireland, starting a trip to Europe with Mrs. Bartlett and their niece. Burton Kendall, his wife, and her sister were on the same boat. They had been passengers on the *Stockholm* at the time of that collision with the *Andrea Doria* but suffered no injuries or losses, fortunately, though as we can well imagine, had plenty of excitement for a few hours! Allyn Taylor retired on July 1 as Vice-president of the United Gas Improvement Company and as President of the Reading (Pa.) Gas Company. Allyn's entire career was with U.G.I., starting July 1, 1906, in Philadelphia, then in Charleston, S.C., Harrisburg and Allentown, with the last 34 years in Reading. The Reading *Eagle* also mentions his long record of participation in local affairs, such as the Community Chest, American Red Cross, Pennsylvania State Chamber of Commerce, and as president of the Reading — you guessed it — Golf Club. Jim says that in an accompanying picture Allyn is fondling a golf club with a smile on his face as though he had just sunk a 30 foot putt. You will recall that at Snow Inn, Allyn lost to George Guernsey who had a low of 97, but the November notes did not report that Cady, Allyn, and Ernest Smith were tied for second at 100. Ern won the draw for second prize. Loyal Ralph Patch, who has attended practically all of our reunions, hoped to take in part of the 50th, but health prevented, and in July he was hospitalized for an operation, and has since been recuperating at home in Stoneham. As you might suspect, considerable data, including names of those who attended each reunion, has been omitted from the above abstract. Of the numerous letters that were received before and since reunion, many have been answered, some were read at Snow Inn, and some will be included in the class notes in future Reviews. So Merry Christmas to all, and to all a good-night. — EDWARD B. ROWE, *Secretary-Treasurer*, 11 Cushing Road, Wellesley Hills 82, Mass.

1907

Otis Fales is still president of Gregg Car Company, Ltd., although on a semi-retired basis. The company has moved its office from New York City to 214 Main Street, Hackensack, N.J. John Donaldson, who was associated with our class in the course in mining engineering, has for many years had for his mailing address the Veterans Hospital at Fargo, N.D. Last September a letter thus addressed was returned to me, and so I wrote to the director of the hospital requesting information, and I received a reply telling a few facts regarding our classmate, from whom I have never heard directly during all of the years since 1907. The letter states that "last February John was transferred from the hospital to the Bethany Home, a Lutheran home for the aged in Alexandria, Minnesota, a town in which he formerly lived. His physical condition following his stroke in 1950 improved so that he was able to sit up in a wheel chair for two or three hours a day and was able to sit up for meals. He has always been an enthusiastic sportsman, and although, of course, he has not been active for years he has continued an interest in his valuable gun collection." This is just a snatch of news about John. I have no knowledge whatever as to his earlier business or professional life or family.

Under date of September 12, 1956, I received a letter from Max A. Greenburg, Course VI, who, though never present at any class reunion and far-removed geographically, has set an example, through the years, that I wish some of our other classmates might follow, of replying to letters from me. He and his wife now have their apartment at 18 Dubnow Street, in Tel Aviv, Israel. He writes: "The material you enclose with your letter seems very interesting, and all the preparations for the celebration of the 50th Anniversary of the Class of 1907 make me wish that I could participate in person. However, this seems quite improbable. I am also very sorry that I cannot participate in any degree in contributing to the Class of 1907 Fifty Year Gift Fund, as the Government here allocates hard currency only for such things as the country *must* have. So all I can send to you and the Class of 1907 are my sincerest greetings and best wishes that all of you, with your families, may enjoy the event to your hearts' content. From the press you no doubt know of the problems here, but the community goes about its daily affairs in a normal way, and, surprisingly, there seems to be no lessening in the numbers of tourists who visit this country — on the contrary, they seem more numerous than before."

J. Ellis Doucette, who for 47 years was steward and purchasing agent for North Reading State Sanatorium in North Wilmington, Mass., retired on July 1, 1956, and he and his wife now live at Byrne Avenue, Box 337, Nabnassett, Mass. (a residential section of the town of Westford, near Lowell). "Ellie" writes that he is devoting much time to music, which has always been a great hobby with him. He is playing with an orchestra in Lowell and does church work, weddings, etc. He plans to do some work with children in his neighborhood, as he has a good working knowledge of several instruments and has done some band and orchestra directing. He also makes and does repair work on violins, cellos, and basses. Also he says he is "quite a hand" at fixing clocks and boats. He has a Massachusetts electrician's license and a moving picture operator's license so he thinks he will be able to find something to do to "pass away the time!" Quite a delightful outlook for activity for a retired man.

As the result of a fine letter that "Chuck" Eaton wrote to Edwin C. Richardson concerning our 50 Year Class Gift Fund, I have a brief note from Richardson, whose address is 715 West Clark Street, Redlands, Calif., in which he says that he has been in many places since 1907, but he has come across few of our classmates. He spent a couple of years with Clarence Howe's Department of Munitions and Supply in Canada. Four years ago he joined the "greater majority" (government employees), and he is a project engineer at Norton Air Base, which is near Redlands. Charles A. ("Chuck") Eaton himself, who for many years has been the head of Eastern Engineering Company, a closely held and very successful corporation in the construction field, has unloaded most of the physical assets of his company and is trying to take things easy. The address of his company and his own business address is 345 North Georgia Avenue, P.O. Box 26, Atlantic City, N.J. His home is at 4511 Atlantic Avenue, Atlantic City.

On last September 22, I received from Jim Garratt of our Class a letter dated on the previous day saying that at midnight on September 20, Mrs. Allan Cullimore had telephoned to him to say that Allan, our classmate, had passed away an hour or so previously. I must quote Jim's comments and fine tribute contained in his letter to me: "So we lose another classmate and I a long friendship. It was a long time before I could get to sleep, thinking of winter trips with Allan into the White Mountains and canoe trips on the Charles River in our young days; canoeing and fishing in the lakes surrounding his summer camp at Gardner's Lake, East Machias, Maine; pleasant hours before the open fire at my seashore

place in New Jersey, hearing of his many trips abroad and being entertained by his countless stories, each improved by his telling; trips together to Cape Cod for class reunions which we have extended in recent years with our wives at West Barnstable; and of joys and concerns in our joint successful venture of bringing my daughter and two sons to honorable womanhood and manhood. Truly a noble man by any standards and in any of his many endeavors."

Allan Reginald Cullimore was born March 2, 1884. He received his degree in civil engineering with our Class and taught at M.I.T. for two years before going to St. Louis as assistant superintendent of construction for that city. In 1912, he became dean of the College of Industrial Science in Toledo, Ohio; in 1916, dean of Engineering at Delaware College. In 1919 he went to Newark, N.J., as dean of Newark Technical School, and also became dean of Newark College of Engineering, which grew out of the technical school. He became president of this college in 1927 and, until he retired in 1949, he directed both the college and the technical school. After his retirement he was named president emeritus and continued his association in various capacities, chiefly as consultant to the trustees of the college. His work as a delegate to New Jersey's 1947 Constitutional convention pushed him into the foreground in the state political picture, and he had wide Republican support as a possible candidate for the state senate, but he did not run. In recent years he had taken especially active interest in the field of bank management, continually studying new banking methods. As recently as last April he addressed a savings bank management conference in New London, Conn., on the training of young men in bank management. On January 22, 1955, in appreciation of 35 years of service to Newark College of Engineering, Allan was honored at a testimonial dinner by college trustees, faculty, and staff.

Allan served as a major in the United States Army Sanitary Corps during 1918 and 1919, being especially active in the work of rehabilitating disabled soldiers. You will remember that all during his undergraduate days Allan had only one arm, the other one having been lost in a boyhood accident. Yet he was able to manipulate a T-square and drafting instruments on a drawing board better than many of us who had two arms and hands! He was a member of many professional engineering associations and fraternities, of many social clubs, and also of the First Presbyterian Church of East Orange, N.J. He was awarded a doctor of science degree by the University of Newark in 1941, and doctor of engineering degrees by both Stevens Institute of Technology and Rutgers University in 1948.

On March 25, 1912, Allan married Miss Edith Van Alst of Brooklyn, N.Y., who survives him, her address being 158 Garfield Place, South Orange, N.J. I wrote a note of sympathy to her, both personally and on behalf of the Class, and received from her a grateful and appreciative reply. There were no children. He has a surviving brother, Clarence, an architect in Bakersfield, Calif. The funeral was held on September 24, and was attended by many prominent men in all walks of life. He was cremated and the ashes remain in a crypt in Fairmount Cemetery, Newark, N.J.

Allan was a most loyal and interested member of our Class and Alumnus of M.I.T. He has attended many of our reunions down through the years. The last time that I saw him was at our reunion at Oyster Harbors Club in 1955, and I well remember his sagacious and often times humorous remarks regarding the plans for our 50-year reunion and gift to the Institute that we were discussing at that time. He has been a member of our "assisting committee" in connection with the securing of contributions to our 50-Year Fund and has faithfully contacted many of our classmates, either by personal calls or by effective letters. Few '07 men knew him as intimately as did Jim Garratt, but many of us feel a sense of real loss.

You men who took the course in naval architecture will no doubt remember Roy W. Ryden, who came to the Institute from the U.S. Naval Academy to take a post-graduate course in warship design, receiving his S.M. degree in 1908. The Washington, D. C., *Star* of August 20, 1956, tells of his death from a heart attack at a hotel on the Pan-American highway between Monterey and Mexico City, Mexico. Ryden was graduated from the U.S. Naval War College in 1925 and from the Army Industrial College in 1935. He was a captain in the Construction Corps from 1927 to 1940; superintendent of the mechanical division of the Panama Canal 1921-1924, and again from 1929-1934. He was manager of the Norfolk, Va., Navy Yard from 1936 to 1941, and later was supervisor of shipbuilding for the Navy at Camden, N. J. He became a rear admiral in the Navy in 1941 and was retired August 1, 1946. He was awarded a special letter of commendation by the Navy Department for services during World War I, and the Legion of Merit for World War II. He was married in 1907, and there were two children. His wife died in 1948. At the time of his death his home was in Montgomery, Ala.

I cannot properly close these notes without reminding you of our 50-Year Class Gift Fund to which we hope you will contribute if you have not already done so; also of the M.I.T. Alumni Fund which merits your careful consideration; also of our 50-Year reunion on June 7 to 9, 1957. Many of our classmates, including several who have seldom or never attended one of our reunions, have already notified me of their intention of being with us on Cape Cod at Oyster Harbors Club next June. Set those dates aside in your calendar for an event that can never be duplicated. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

1908

The second dinner-meeting of the 1956-1957 season will be held Wednesday, January 9, 1957, at 6:00 P.M. at the M.I.T. Faculty Club, 50 Memorial Drive, Cambridge, Mass. As this is the season for making New Year resolutions, why not resolve to attend our dinner-meetings during 1957? It would be an excellent resolution and one easy to keep.

We have recently learned of additional honors for Edgar I. Williams, when the Donnell Library at 20-30 W. 53rd Street, New York City, built from his plans, was cited by the awards committee as "the best new institutional building constructed in the area in the two year period." Honors also for Gregory Dexter, who received a "Certificate of Distinction" from Polytechnic Institute of Brooklyn, N. Y. Gregory writes: "I was one of the 100 alumni of the Polytechnic Institute of Brooklyn to receive a 'Certificate of Distinction' in May when it started the second century after 100 years of service. After graduation from M.I.T., my professional work suggested to me that a further education was desirable. So about 1920, I started attending the night classes of Brooklyn Poly and graduated in 1929. My name was selected with others from 8000 alumni. The scroll of award cited me as 'a valued alumnus of the Institute whose professional achievement and service to the common good are of distinct credit to himself and to this Institute."

George Whittle wrote Les Ellis last June from Berkeley, Calif.: "Greetings to our classmates meeting at Harwichport for our 48th Reunion. I wish I could be there to help you celebrate, for I surely enjoyed my one Class reunion, i.e., the 40th at Oyster Harbors in 1948. Incidentally, I still wear, while working in my garden, the Navy cap with O T 8 on it, which we wore at that time. However, I hope to get back for our 50th if I am still kicking at that time.

"I am gradually retiring from professional work but am very busy as chairman of two committees, i.e., Commonwealth Club of California, and San Francisco Section A.S.C.E., studying a current of the San Francisco Bay area. The cost is tremendous; $818,000,000 for the first stage and about 1½ billion dollars for the ultimate complete system. We have to do something to relieve congestion here for California now has about ten per cent of the motor vehicles in the U.S. (6.1 million out of 62 million). Hope you have good weather and a wonderful reunion."

Just to keep busy, Harold Osborne has become president of the Regional Plan Association, which has begun a three-year study of the economic and population forces influencing the development of the New York, New Jersey, and Connecticut metropolitan region. The New York *Herald Tribune* of June 25, 1956, reported: "Harold S. Osborne, president of the twenty-five-year-old private agency devoted to promoting co-ordinated development of the tri-state area of 550 municipalities in twenty-two counties, said the study will be financed by equal grants from the Rockefeller Brothers Fund and the Ford Foundation totaling $480,000. The study will be directed from headquarters in New York by a special staff organized by the Harvard University School of Public Administration under the direction of Edward S. Mason, dean of the school."

Bill Grimes retired December 31, 1955, as head engineer of the design division of the Long Beach Naval Shipyard, terminating a long engineering career in the United States, Panama, and South America. He and his wife plan to live in Mexico.

We are very sorry to report the death of Kurt Vonnegut on October 1, at his home in Nashville, Ind. Kurt was with us on our 45th Reunion at Harwichport, Mass. We have just learned of the death of Utar J. Nicholas at his home in Melbourne, Australia, on April 14, 1952. Also, Warren D. Spengler died at his home in Denver, Colo., on November 11, 1954. We are also sorry to report the death of Lawrence Howe Allen at his home in Washington, D. C., on April 27, 1956. James M. Talbot died in Dongan Hills, Staten Island, N. Y., on April 23, 1956.

Have you "done your duty" to the Alumni Fund? Remember all gifts help to build up our 50-Year Gift to the Institute. H.A.S.N.? — H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LESLIE B. ELLIS, *Assistant Secretary*, 230 Melrose Street, Melrose 76, Mass.

1909

On Alumni Day we were discussing with Gardiner Perry, VI, his many interesting experiences leading up to his present position as president of the Perry Normal School, Inc., of Boston, and requested him to describe them for the class notes. He has done so as follows: "I promised to bring you up to date as to my activities over recent years. As you know, after World War I service when I was associated for a time at Ft. Monroe with Fred Green, whom we shall miss at future reunions, I became a member of the first class of the Babson Institute of Business Administration. Thus began a happy business relationship with Roger W. Babson (M.I.T.'98) in various capacities which was unbroken until in 1944 I became executive secretary of the General Convention of the New Jerusalem, the national organization of my church in the U. S. and Canada. This position I held until 1950, when I again became actively associated with the Babson interests, although in the interim I had become a life member of the Corporation of the Babson Institute. In 1946, Mr. Babson founded his Midwestern college at Eureka, Kansas, at the center of what he called the 'Magic Circle' of 400 miles radius, 'the richest area in time of peace and the safest in time of war.' In 1950, the president of Utopia College, as Mr. Babson had named it, had resigned and I was asked to take over the management of the college until we could find the right man as a permanent head. The work given in Eureka is identical with that of the freshman year of the Babson Institute and the group was small, mostly men who, perhaps because of neglect of earlier scholastic work, needed more individual attention. The problem was to prepare as many of them as possible in one year to step into the heavy schedule of the Babson Institute second-year class. My wife and I accepted the challenge and spent four years at that college, now known as the Midwest Institute of Business Administration. My position at first was local administrator, teacher and dean, and later president. In 1954, as we had found in my then-dean the man we had been looking for to carry on the college, I retired to devote my full attention to the Perry Kindergarten Normal School in Boston, founded by my mother in 1898. Since her death in 1918, I had had, as my avocation, shall we say, the business responsibility for that teacher-training school. This year we have just completed a change long contemplated, of incorporating that school as a non-profit educational corporation under the name 'Perry Normal School, Inc.,' of which I am now president, and Mrs. H. H. Jones, the principal of the unincorporated school since 1918, is now dean of faculty and students. So at the commencement of our 58th year we are still carrying on the same work under the same management but with a new name and a permanence not assured before. Some church activities still keep me busy. I am one of the Board of Managers of the Wayfarers' Chapel on the Palos Verdes Peninsula, south of Los Angeles, which was designed by Lloyd Wright. Many of you have seen pictures of the 'Glass Chapel,' or have seen it in the movies or on TV at the time of the marriage there of the daughter of Chief Justice Warren. Perhaps some of our classmates have been fortunate enough to have been there. Raising the money for it and getting it started was one of my tasks during my term as Executive Secretary of my church organization. Now it means three or four trips a year to the Pacific Coast. So you see, like many of us who are 'retired,' I find enough to keep me busy while our eight grandchildren, children of my daughter and my two sons (Fred, M.I.T.'43) keep my wife and me young! The latchstring is always out at 105 Pine Street, Needham, Mass., for any of our classmates who happen to be in the neighborhood."

We have already reported the several honors that have been conferred on "Steve," such as the T.A.P.P.I. Medal in 1939 and the Paper Association Special Service Award in 1954. Another honor was conferred on him last June at the summer meeting of the Canadian Pulp and Paper Association at the Manoir Richelieu, Murray Bay, Quebec. Following are excerpts from the citation: ". . . presentation of an Honorary Life Membership in the Technical Section of the Canadian Pulp and Paper Association to Joseph Newell Stephenson; papermaker, teacher, technical writer and editor; a man who has devoted more than 50 years to the technical advancement of the pulp and paper industry; a good citizen and a valued friend. Steve, through his teaching and his writing, has not only served this industry well but he has also served his students, his readers, and his country. Amongst other endeavors he has been an elder of his church for 37 years and a cub master for 27 years." Steve also went to Britain in September with a delegation of the Canadian Technical Section (C.P.P.A.) to attend the general meeting of the British Technical Section and tour British mills.

In the July Review, we reported that Mayo Hersey, II, was to retire from the U. S. Navy Experiment Station at Annapolis and make some connection with one of the engineering schools, preferably near Boston, to lecture, conduct research, and revise his book on lubrication. Apparently, the Navy found him indispensable for the time-being, for we received the following letter from him: "Your excellent report of Class News in the July Review came to my attention upon our return from Monument Beach. The question of settling in New England has been postponed another year owing to my re-employment by the U. S. Naval Engineering Experiment Station immediately following retirement. I am to continue full-time in the same position. Incidentally, the designation of the position was recently changed from 'Technical Consultant' to 'Research Consultant.' Annapolis can be heartily recommended as a winter resort, and if you come this way, please allow time for dinner with us at the nearby 'Officers' Mess;' or better still, my wife adds, at our little apartment 'Tree Tops.'"

With regret we report the death of Charlie Campbell, X, which occurred September 13 at the Massachusetts General Hospital. We all remember him as a quiet, serious type of student. His career was closely associated with that of the late Carl Gram. Both prepared for the Institute at Quincy High School and while at the Institute both took Course X and were runners on the Varsity Relay Team. After graduation both joined E. B. Badger and Sons of Boston and worked there concurrently for a number of years. Charlie made some valuable contributions to chemical engineering, it being stated that he "was widely known throughout his field for negotiating a contract which set a pattern for the development of modern chemical engineering in distillation; and in World War I he developed equipment for smokeless powder plants. In the 1920's, he was instrumental in introducing modern distillation methods to the petroleum industry. He was elected president of E. B. Badger and Sons in 1933, board chairman in 1935, and retired in 1942. In World War II he resumed active direction of the company's war effort, retiring at the end of the war. At the time of his death he lived at 29 Garden Street, Cambridge. He leaves a sister-in-law, Mrs. Harry G. Campbell of Cleveland, Ohio, and a nephew, Charles A. Campbell of Los Angeles.

We have also been notified of the death on June 9, 1954, of Warren M. Eaton. He prepared for the Institute at the Chauncy Hall School, Boston. The only notation which we have in our records is that in January, 1925, his address was changed from 40 Appleton Street, Waltham, to 27 Appleton Street, his last address. Merry Christmas to all. —CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. HARVEY S. PARDEE, *Assistant Secretary*, 10445 Johanna Avenue, Sunland, Calif. MAURICE R. SCHARFF, *Assistant Secretary*, 250 East 43rd Street, New York 17, N. Y. GEORGE E. WALLIS, *Assistant Secretary*, Wenham, Mass.

1910

It is with deep sorrow that I must report the passing of Nathan Ransohoff on September 25. Bob Burnett sent me the following clipping: "Nathan Ransohoff died yesterday, and because of his unselfish request some sightless person may see again. Mr. Ransohoff, president and chairman of the board of N. Ransohoff, Inc., sheet-metal cleaning machinery manufacturers, died of cancer at his home, 3509 Biddle St., Clifton, Cincinnati, Ohio. According to his wish, he was taken to Jewish Hospital, his eyes removed and placed in the Cincinnati Eye Bank for Sight Restoration, Inc. His father, Dr. Joseph Ransohoff, was professor of surgery at the University of Cincinnati. A son, Dr. William Ransohoff, and a brother, Dr. J. Louis Ransohoff, also are physicians. During his 68 years, Mr. Ransohoff, a mechanical engineer, was associated with Pratt & Whitney Co., Hartford, Conn., and the Cincinnati Milling Machine Co. He founded N. Ransohoff, Inc., in Hamilton, Ohio, in 1929. He was a 1910 graduate of Massachusetts Institute of Technology. He was a board member of the Bureau of Jewish Education, Jewish Center, Consumers' League and the Negro Civic Welfare Association. He was a former trustee of Hebrew Union College. He was a member of American Society of Mechanical Engineers, Engineering Society of Cincinnati and Isaac M. Wise Temple. Mr. Ransohoff was a defeated candidate for City Council in 1945."

A note from Edwin Jenckes says: "I am just a Government bureaucrat working on materials going into alloy steel. My work is statistical, historical and crystal-balling, not metallurgical."

It has been some time since I have heard from Francis Silsbee. The following is from the Lawrence, Mass., *Eagle:* "Among the members of Lawrence High School's class of 1906 expected to attend the 50th class reunion May 26 at Andover Inn is Francis B. Silsbee, Ph.D., chief of the electrical and electronics division of the National Bureau of Standards, Washington, D. C. Dr. Silsbee, valedictorian of his class, and four times winner of the Perkins Prize, was graduated in 1910 from Massachusetts Institute of Technology with a bachelor of science degree, and received a master's degree there the following year. His Doctor of Philosophy degree was received from Harvard University in 1915. In 1911 Dr. Silsbee joined the National Bureau of Standards in the nation's capital as a theoretical physicist, and has been there continuously, except for the year spent at Havard to earn his doctorate. During World Wars I and II he did extensive research in the field of electricity which contributed outstandingly to the war efforts, particularly on problems of lightning hazards to aircraft and bomb sights. In February of this year, Dr. Silsbee was significantly honored at the Department of Commerce Eighth Annual Award program. He received the Gold Award for exceptional service, highest award conferred by the Department of Commerce, 'granted for an outstanding contribution to the public service, the nation and humanity, presented as follows: Dr. Francis Silsbee — For outstanding contributions basic to the fields of electricity, electrical engineering and electrical measurements, for inspiration and leadership among his colleagues in these fields, and for distinguished authorship.' In 1921 he married Miss Clara Gillis of Butte, Montana, a Radcliffe graduate and chemist at the National Bureau of Standards. They have two sons, Henry and Robert, a daughter, Frances, and four grandchildren." — HERBERT S. CLEVERDON, *Secretary,* 120 Tremont Street, Boston, Mass.

1911

It is with deep regret that I chronicle the passing of loyal Elevener, Moss W. Colebrook, V, who died the day after Labor Day at his home in Albany, N. Y. Although he spent only the last two years with us, he was an interested M.I.T. Alumnus and loyal classmate.

Born in Syracuse, N. Y., August 5, 1885, Colebrook's family moved to Rochester when Moss was quite young where his father was employed by the Rochester Candy Works, later becoming president and treasurer. Moss attended Amherst College in the Class of 1909 before transferring to Tech. Following this, he started in the candy business from the lowest rung of the ladder. After acquainting himself with the needs of the company he took charge of making the formulae for the highest quality candy products and built for the company a fine, high quality name. He became vice-president and secretary of the company. He became a first lieutenant in the Chemical Warfare Service in World War I and then rejoined the business, which survived the depression years, but when the N.R.A. came in, this proved to be too much and the business was liquidated in 1933, after which he established his own laboratory in Pittsfield, Mass., as a food research chemist, and acted as consultant to many important companies. In May, 1945, he married Miss Jane Haley in Pittsfield and shortly thereafter they moved to Albany, where he reopened his laboratory and continued his work until his retirement two years ago.

According to his widow, to whom we expressed the sympathy of his classmates: "Moss had a heart of gold; he was full of integrity, very genial and spontaneous, always extending a helping hand. He always felt a love for the Massachusetts Institute of Technology." We mourn his passing.

It is my pleasure to see Jim Duffy's younger brother, Felix, at the Framingham Rotary Club each Monday, and it is interesting to follow the career of his son, William, who is now a junior at M.I.T. This nephew of Jim's is a track man and last year won his varsity "T" in the sprints. Another son, Dr. Paul E. Duffy, was recently honorably discharged from the U.S. Navy and is practicing dentistry in Revere and living with his wife at 26 John Street, Malden.

The Boston *Globe* had a good picture of President Carl S. Ell, XI, receiving checks for more than $50,000 from representatives of the Northeastern University Alumni Council, following a recent fund drive. Carl has frequent TV as well as newspaper "appearances" in his busy life as head of this fine Back Bay institution, where a new building is about to be dedicated (mid-November) on the exact site of the old Boston Red Sox field when we went to Tech.

Paul Cushman, VI, and Ottilie, still ardent supporters and participants in the square dancing field, recently attended the Fifth National Square Dance Convention in San Diego, Calif. Ottilie sent me the printed menu and program for the "Okie Banquet" sponsored by the Oklahoma State Federation of Square Dance Clubs. Following the banquet, the first event on the program was the presentation of flags, done by Paul and Ottilie, Walter Butts and Gertrude Wright, fellow Oklahomans. It was a very interesting evening, climaxing a fine convention, Ottilie wrote.

This is one of the shortest sets of 1911 notes in quite a spell. Maybe it's my fault, for not inspiring letters from you classmates — but please accept some of the responsibility yourself and "Write to Dennie!" — ORVILLE B. DENISON, *Secretary,* Chamber of Commerce, Framingham, Mass. JOHN A. HERLIHY, *Assistant Secretary,* 588 Riverside Avenue, Medford 55, Mass.

1912

Word has just been received of the death of Clarence McDonough, I, in New York on September 19. Clarence had been with the Foundation Company for many years and served as president for some time. It is hoped further details can be secured. John C. Freeman, VI, has moved from his old address at Morris Plains, N. J., to 607 North L Street, Lake Worth, Fla. He would be pleased indeed to see any of his old friends who are wintering in that vicinity. John H. Lenaerts has closed his home at Pocasset on Cape Cod for the winter and is now living at 358 E. 7th Street, Mt. Dora, Fla.

Gene Marceau, who knows of my interest in fishing, was kind enough to send a clipping from the St. Petersburg *Times* showing some catches that were brought in there during the summer. I admit that we have nothing here in the North to compete in the quality or variety of their catch. I was fortunate enough to enjoy 10 days of Atlantic salmon fishing in New Brunswick this fall, and was fortunate to secure 8 salmon and about 30 grilse. My salmon did not run very large this year, the top being 14 pounds, although a friend of mine came up with a 20 pounder and the large fish for the season was a 25 pounder.

Bill Canaday writes that he has had little time for his garden this summer as he was in the Orlando Hospital for 17 days, and after returning home had to take it easy for several weeks. I believe I reported on Bill's garden when I saw him last winter. Pinks, sweet peas, and petunias are his standard crop, and he always has hibiscus in blossom. The blight took heavy toll of his roses, so he is looking forward to a general replanting in this department.

Vincent L. Gallagher, VI, retired on October 1 as United States manager of

the Pearl Assurance Company and president of the Monarch Insurance Company of Ohio. Vin has been in the insurance business since graduation in 1912, except for serving as an ensign in the Navy during World War I. His rise reads like a Horatio Alger story, as starting from the bottom he forged his way to the top, and in addition to serving on his own company is past chairman of the National Board of Fire Underwriters' Committee for Adjustments and president of the Western Sprinkler Risk Association. He is now a member of the executive committee of the National Board of Fire Underwriters and the New York Fire and Insurance Rating Organization, as well as a member of many other committees. He has purchased a home in Coconut Grove, Fla., and expects to be down there before snow flies here in the North. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER M. WHITE, *Assistant Secretary*, 1230 N.E. 102nd Street, Miami 38, Fla.

1914

Our ever peripatetic classmate Alden Waitt (Maj.-Gen. Ret.) visited Cambridge early this fall and paid calls on Leicester Hamilton and your secretary. Alden had been attending the convention of the American Chemical Society at Atlantic City where he was representing the San Antonio, Texas, section, of which he is chairman. There was no indication of lack of energy, for which he has always been noted. Besides his activities in the Chemical Society, his local church, military affairs, and as a chemical consultant, Alden has taken up painting. At first your secretary thought that Alden was joking, but seeing displayed examples of his work soon convinced me that Alden is a competitor of Messrs. Churchill and Eisenhower. Alden's son Tom is still in the Army and is now a Captain of paratroops stationed in Washington. His daughter Betty is married to a Lieutenant Colonel in the Medical Corps, stationed at El Paso, Texas.

At the 100th Commencement of Tufts University on June 10, Henry R. Aldrich received an honorary degree of doctor of science. In addition to graduating from M.I.T., he also holds degrees from the Universities of Minnesota and of Wisconsin. He is secretary of the Geological Society of America, whose headquarters are in New York. Aldrich lives in Leonia, N. J.

Your secretary was not the only classmate who spent last Christmas in a hospital. Bob Moorehouse, too, was confined in a hospital at that time. Unfortunately, he is still troubled from the cause of his four weeks' hospitalization, resulting from an eye infection and glaucoma. While his vision is seriously restricted, Bob writes that with a reading glass and "Talking Books" he is getting along nicely. He is living at 15 Elliott Avenue, Bryn Mawr, Pa.

J. Stanley Churchill died suddenly of a heart attack in Cambridge on September 29. Churchill made his home at Cohasset, Mass., and was a patent attorney in Boston. He is survived by his wife, the former Edna Rhodes, and two sons. Churchill prepared at the Quincy High School, and at the Institute was a member of Sigma Alpha Epsilon. He and our late president, Arthur Dorrance, did their thesis together.

Word has also been received of the death earlier this year of Alexander G. Long in Elmira, N. Y. Until his recent retirement he was vice-president of the American LaFrance and Formite Corporation, with which company he had been associated ever since leaving the Institute. Long came from Portland, Ore., and prepared at Portland Academy. At the Institute he was a member of Chi Phi, Walker Club, Round Table, and was assistant business manager of the 1914 *Technique*. On May 12, 1917, he married the former Madeline Pratt, who survives him. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N. J.

1915

What a Class! In that attractive, impressive, and comprehensive 1956 Annual Report of the Alumni Fund, isn't it comforting to see your 1915 Class leading the 10-year group, 1910-1919, in amount contributed, total class giving, and average contribution — a fine showing! Many thanks to you all and congratulations to Max and Clive for their indefatigable spirit and work on the Alumni Fund.

The big and exciting class news this month is the marriage of our Class Baby, Virginia Thomas, to S. Paul Johnston ('21) on September 22 in Bethesda, Md. Virginia and Paul will live at 140 Littlebrook Road, Princeton, N. J., and will welcome any of the Class who can visit them there. Paul graduated in Course II and is director of the Institute for Aeronautical Sciences in New York City. We join with Barbara in being very happy over this marriage and send 1915's sincere wishes to these newlyweds for a long, happy, and successful life. All the best!

Harold Lobdell and Don Severance have done an admirable job in maintaining a careful and accurate Alumni file. A big problem for them has been the number of Alumni listed without addresses which has been gratifyingly reduced from 12.6 per cent in the 1948 Register to 6.2 per cent in the 1955 Register. Their Executive Committee adopted a vote: "A former student whose Institute attendance was limited to two years or less shall be regarded as no longer 'qualified in the opinion of the Executive Committee' to retain membership in the Alumni Association when he has neglected for a period of ten years or more to inform the Association of his current mailing address." Under this ruling 23 names have been dropped from the 1915 list and 13 other names of men who attended more than 2 years but for whom no addresses have been listed for more than 10 years. It must have been a monumental job to compile these statistics, and Lobby and Don deserve a great deal of credit for the work they have done to make our Alumni files so complete and so accurate. With his dues check Henry Daley wrote: "The last column of Class Notes in the Review reminded me of the important Class Dues so I hope the enclosed check will help. It was good to get together with the boys again at that wonderful Class Dinner in New York last January. Best regards from Frances and me to your Frances and you." Thanks a lot, Henry, and always good to hear from you.

With his dues check, Bill Spencer wrote to Henry from 213 Cedarcroft, Baltimore 12, that he was sorry to miss the Class cocktail party and Alumni Day last June. Better luck next year, Bill, and we'll all be glad to see you again. Doug Baker's new address is c/o Post Office, East Middlebury, Vt., which must mean the long cherished retirement for Doug, so our envious best wishes to him for complete enjoyment and happiness.

Bookman Associates, New York, has recently published a volume entitled *Thermodynamics from the Classic and Generalized Standpoints* by Joseph Louis Finck. Congratulations to Louis on this impressive work. We were all glad to see him at the New York Class dinner. He received his Ph.D. from Johns Hopkins University, and since 1933 has been director of his own laboratory at 440 Rogers Avenue, Brooklyn 25, which is devoted principally to the study of the thermal properties of materials.

Larry Landers was recently honored with the chairmanship of the Business Men's Council of the Combined Jewish Appeal of Greater Boston. This Council is composed of Boston's leading business and professional men who occupy key positions of responsibility in the Appeal. This is a big job for Larry and our congratulations to him. With Larry's energetic work in Class affairs as an example, we know he can put this over successfully for the Appeal.

Next month's notes will tell you about the Boston Class Dinner held on November 2, and Ben Neal's plans for our Fiftieth Reunion Capital Gift to M.I.T.

It is sad to report the passing of Palmer Sabin, IV, who died on September 19 at California Hospital in Pasadena. Palmer had lived in San Marino for 32 years and had taken an important part in the planning of the Los Angeles Civic Center and was responsible for the design or work on many of the Southland's major structures. He had served as president of the Pasadena Art Museum. Our sympathies have been expressed to his widow and family. — A. W. MACK, *Secretary*, 100 Memorial Drive, Cambridge 42, Mass.

1916

We mentioned in last month's column that we had more material about the Reunion, including good stories from Bill Barrett and others. As a matter of fact, Bill is one of those whom we asked especially, as a new director, for an account of some of the details of the Reunion as he saw them. "While the Reunion at Oyster Harbors is a very happy memory, it is a conglomeration of memories which it is very hard for me to separate at this time, so you have given me a rather difficult assignment to break apart the many little anecdotes which went to make it one of our outstanding get-togethers. The records have not been en-

tirely clear, but rumor has it that the skunk which greeted us on our arrival and persisted in letting us know of his presence pretty much throughout the Reunion, was reputed to have been left by the previous occupants of the Club, namely, one of the Harvard classes. Now whether this is true or not, I have no evidence, but anyway, when Joe Barker, Walter Binger, and I arrived at Oyster Harbors we had a great welcome from even the animal kingdom of New England. Everyone seemed to enjoy himself, either in going over the photographs of previous meetings and picking out the youths in the class picture of yesteryear, in golf, in cards, or in just sitting around and chewing the fat, and learning a great many interesting things going on in this world, not a few of which are responsibilities of our many interesting classmates.

"We did not hear much directly from Joe Barker of his activities as head of the American Society of Mechanical Engineers, but from practically every corner of the nation he has done himself proud, in his usual manner, in meetings and addresses to local engineers and related groups, as evidenced by the comments of many of his classmates who were present at the Reunion. Jim Evans was his usual enthusiastic self. One might have thought it was graduation day and he was leading the cheers. He certainly showed some fine prowess on the golf course, and his encouragement to his fellow-players was just what the doctor ordered at the time. What would a Reunion be without Jim Evans? Ralph Fletcher, in addition to taking care of everything else at the Oyster Harbors Club, had the wine flowing, and it was good wine, at every meal, so all the boys were in the proper atmosphere for a real good time. We missed the fire crackers that Ralph usually regales us with, but apparently he has not been down to Georgia lately or else his youngsters were busy firing them off and there were none left. But what he lacked in fire crackers he certainly made up in his speech at the acceptance of the presidency of the Class. Bob Wilson was very much in evidence on the golf course and in the evening card encounters. How he likes the contest and how he enters into it with all the enthusiasm in the world! It would not be Bob if it were otherwise. How the boys greeted Barney Gordon with a great deal of enthusiasm. I noticed crowds around him as he came in, apparently because of their wives' recollection of previous reunions — but Barney had no hosiery with him. He said the women had gone crazy in their ideas of colors and shades and he was not one to pick out the right shades to send home with the boys; it was good to see you just the same, Barney.

"Now speaking of the ladies, in reply to many questions that we received when we approached the Class on the guaranteed fund, we said the wives could come but Ralph Fletcher said they would be nearby, and when I looked into his definition of 'nearby,' the locale was 25 miles away. Twenty-five miles is not hard to get around to in the metropolitan area but 25 miles on the Cape means an awful lot of distance and a great deal of time. Ralph apparently had it all figured out because I did not see any evidence of the wives. The boys generally took very good care of themselves, and seemed intent on living out the life expectancy, as there were no swimmers, few tennis players, and some of the boys were very choosy as to when they played golf and how much, this all to the good." A good accounting, Bill; with generous stories like this the Secretary's job is considerably eased. (Leave it to Bill to think of "life expectancy" on such occasions, as Secretary of the Metropolitan Life Insurance Company.)

A panoramic reunion picture was sent out to all those who were at the Reunion, and we've had a number of thank you letters together with news and comments (requested) for the column. The first to reply was Harvey Stocking, who is vice-president of the Samuel Croot Company advertising concern in New York. He writes: "Looking back on my years at Tech I am sure that what I learned there has made things easier for me during my business life. Even though I never practiced architecture as a profession, my Tech-inspired ability to understand the 'ins and outs' of building and the acquisition of technical lingo which makes it possible for me to understand the research man, have made my bread and butter secure for the past 40 years. Most of my advertising accounts are technical or have to do with the building trade. This, of course, brings me to the 40th reunion at Oyster Harbors Club this past June. It was a wonderful party and everyone enjoyed it immensely. The way it was run was very satisfactory. This, I'm sure, can be attributed to our very able officers who deserve a big hand for their efforts. I was particularly gratified at the re-election of Ralph Fletcher as President. In passing I would also like to compliment Bill Barrett on the nice way he handled the underwriting end of the '40th.'"

Steve Brophy reports further good news from Chuck Loomis in September . . . sharp improvement since a second operation this summer. Chuck mentioned particularly his appreciation of a set of snapshots taken at the Reunion, although they made him wish more than ever that he had been able to attend. He was especially glad to have the round-robin memorandum from the reunion itself and also the Reunion Class photograph. He then reported that he expected to get to the office shortly even though on a part-time basis at the outset. Good news indeed, Chuck, and best wishes for a speedy full recovery!

We have had a letter from Len Best with his thanks for the picture of the Reunion and saying, "It was a perfect deal so far as I am concerned, and the committee in charge has my vote of thanks cum laude. Spent three weeks this summer at Boothbay Harbor with my family — now the new year of activities starts anew. My son Richard is now a junior at Lehigh; my daughter Beverly a senior in Summit High." Len goes on to say that people are still using quantities of "Best Pencils" and then mentions that he received a citation in June for activities in the field of education. He has been primarily concerned with a better mutual understanding of business and public education and is justifiably very proud of the citation because it indicates progress toward this goal. We are very happy to reproduce the citation here. *"Citation: Award for Distinguished Service to Education: Leonard E. Best.* Leonard E. Best, leader of citizens in the goal to obtain more adequate support for public education in the State of New Jersey, school board member, industrialist, civic leader. A successful president of his own firm, a business man who has been able to speak to business men and other laymen in their own language of the needs of schools, the inequalities of support and the goal of harnessing the economic ability of the state for the direct benefit of the children of New Jersey. From President of the Irvington League for Municipal Economy, he went to the membership of the Summit Board of Education in 1943, to become later the chairman of the New Jersey State School Aid Commission. A great American with the characteristic traits of thrift and efficiency, bent to a greater moral and inspirational purpose of seeing that the benefit of such industry and economy were not ends in themselves but means to obtain a better life through better education for all children. A member of the Cost of Government Committee of the New Jersey State Chamber of Commerce and of the Federal Tax Committee and Education Committee of the same organization. Legislative chairman of the Federation of District School Boards of Education, recognized by his peers for his sound judgment, appreciated by present workers in education for his splendid leadership, and indebted to by the youth of New Jersey for whom he has led the good fight for adequate support of education. In recognition of these activities on behalf of Education, activities which have demanded great skill in human relations and endless hours spent far beyond the call of duty, we gratefully award the 1956 Medallion for Distinguished Service in Education to Leonard E. Best. . . . *The New Jersey State Teachers College at Newark,* (signed) Eugene G. Wilkins, President." Congratulations, Len — and from hearsay-evidence in my part of northern New Jersey, it was richly deserved.

The June 1956 issue of *Mechanical Engineering* put 1916 very much in the highlight so far as photographs and news are concerned. On one page we see a picture of Joe Barker (A.S.M.E. President) handing to Charles E. Wilson a certificate of honorary membership in A.S.M.E. On the next page we see Joe Barker again with three other distinguished gentlemen gathered at the 11th Annual A.S.M.E.–S.A.M. Management-Engineering Conference before the banquet on April 26 at which Joe spoke on "The Role of Management in Meeting Technological Manpower Requirements." And a few pages later we see the most important photograph of all — a picture of Joe and President Eisenhower on the occasion when the President was presented a certificate of honorary membership in the Society. In a ceremony at the White House, Joe said the honor, highest offered by A.S.M.E., was "for acknowledged professional eminence in engineering" and

recognized the recipient as "soldier, statesman, and President; tactful and inspiring leader whose planning and administration contributed greatly to the winning of World War II and to the defense of the free world." The presentation was witnessed by several prominent members of A.S.M.E. In the same issue of *Mechanical Engineering* in a section designated "People," a paragraph pointed out that Robert E. Wilson (our Bob) was the recipient of the 1956 Washington Award for unusual dedication of leadership through science and engineering to the advancement of research, industry, education, and public affairs. The presentation was made at a dinner given by the Washington Award Commission in Chicago, Illinois, May 1. And, oh yes; we nearly forgot to point out that Joe has an important article in this same issue of *Mechanical Engineering* on the subject of "You and the Engineering Shortage." In summary, he points out that automation is going to find increasing application in the productive and distributive functions of our economy; that automation will result in a decreased demand for unskilled labor but at the same time will more than offset this by greatly increased demand for skills of many kinds; and that we are going to have to move quickly to do something about the severe shortage of engineers and scientists that is already upon us if the free world is to maintain its strength.

Recently, Barney Gordon was awarded an Honorary Doctor of Science degree by the Lowell Technological Institute (Lowell, Mass.), and in the announcement of this award the following write-up about Barney appeared: "Barnett D. Gordon, a graduate of M.I.T., and a trustee of Lowell Technological Institute, is a founder of the Albert Einstein College of Medicine, a member of the President's council of Yeshiva University, a director of the New Hampshire Council on World Affairs, and a member of the Massachusetts Medical Approving Authority. He also is president, treasurer and director of the M.K.M. Hosiery Mills, Inc., in Rochdale, and of the Laurens Hosiery Mills, Inc., in Laurens, S.C.; president and director of the Texas Knitting Mills, Inc., in Mineral Wells, Texas, and of the New Hampshire Finishing Corporation in Manchester. Mr. Gordon is treasurer and director of the Manchester Dyeing and Finishing Corporation, chairman of the board and a director of Gordonshire Knitting Mills, Inc., Cavey Spinning Mills, Inc., and Finrico Co., Inc., in Puerto Rico, and Darlene Knitwear, Inc., and is executive vice president of Columbian Purchasing Group, Inc." Congratulations, Barney, on this special honor.

Here's an interesting and welcome letter from Rudolf Gruber: "I am indeed sorry that circumstances prevented me from attending our Fortieth Reunion. Heard from Bob Wilson, who said the affair was very successful, indeed. The enclosed clipping may be of interest, for the Class Archives. You know, when I started at Merck and Co., as factory chemist, I was the first M.I.T. man employed. Since that tme, we have had many more, illustrious M.I.T. alumni — last, but not least — Vannevar Bush, who has served on our Board for a number of years." The clipping will go into the archives, but first we would like to reproduce it here: "Dr. Rudolf E. Gruber, New Dover Rd., Colonia (N.J.), has retired from Merck and Co., Inc. after 40 years with the company. He was a vice president of Merck for 27 years. Born in Freiburg, Germany, Dr. Gruber is a graduate of Massachusetts Institute of Technology, where he received a B.S. degree in chemical engineering. He later received an honorary doctor of science degree from Rutgers University. Employed by Merck in 1916 in the Rahway plant, Dr. Gruber became works manager in 1918. Following the merger of Powers-Weightman-Rosengarten Co. of Philadelphia with Merck in 1927, Dr. Gruber organized and directed the company's new products division. During World War II, Dr. Gruber, while still with the company, aided the Office of Scientific Research and Development in the joint effort of the United States and Great Britain to develop penicillin. In 1945, Dr. Gruber became vice president for foreign relations of Merck. He continued in that post until 1952 when he became consultant to the corporation. Author of many articles for scientific and technical publications, Dr. Gruber is a Fellow of the New York Academy of Science and a member of the American Association for the Advancement of Science, American Chemical Society, American Society of European Chemists, New York Academy of Medicine and Association of Medical Directors (N.Y.). He has served on the Rutgers University Board of Trustees' College of Pharmacy Advisory Committee since 1928." Thanks very much, Rudolf, and we wish you much happiness in your retirement.

We were pleased to hear from Kem Dean and Clint Carpenter, both of whom wrote indicating that they were sorry that they had not been able to attend the reunion due to particularly heavy duties at that time.

In July, the Cincinnati *Post* carried the following announcement about Charles Cellarius which will be of special interest to our architects: "Completing 35 years in the practice of architecture, Charles F. Cellarius has announced formation of a partnership with Herbert F. Hilmer. The new firm is known as Cellarius and Hilmer. Mr. Cellarius, a graduate of Yale University and Massachusetts Institute of Technology, was supervising architect for the model town of Mariemont in the 1920's, and later won renown for his design of buildings at various universities. Mr. Hilmer joined the Cellarius firm in 1940 following his graduation from Cornell University. During World War II, he was engaged in architectural work for the War Department, including design of military bridges. After World War II, he returned to the Cellarius organization." The best wishes of the Class go forward to this new organization. Last July, too, we came across another announcement, this one from Danbury, Conn., and relating to R. Gilman Smith. It had to do with his appointment to the Bethel Town Planning and Zoning Commission, and read in part as follows: "Mr. Smith is a graduate of the University of Wisconsin and has taken post graduate study at the Massachusetts Institute of Technology. He served for some time as an executive in the public utilities field and is now associated with the W. C. Gilman Co., transportation and traffic engineering consultants, with head office in New York City."

A recent note from Jap Carr included the following bit: "Met Walt Binger's niece here this summer, otherwise not the slightest 1916 contact since June. Even Dutch Gaus' usual visit to the Poconos did not occur this year or else he failed to contact me as promised. My youngest son enters St. John's College, Annapolis, late this month and after that we will leave delightful Buck Hill Falls for our home near Wilkes-Barre. All good wishes to you and all class members for a happy fall and winter season."

This concludes the story for this issue, but before signing off, the Secretary proudly notes that he has been blessed with his first two grandchildren; a granddaughter in May, and a grandson in July. A wonderful feeling, this, as Paul Duff and others in the Class proclaimed some time ago. Finally, a suggestion — write a little but write often (to paraphrase the wording on a Valentine of long ago: "Love me little, love me long!"). — HAROLD F. DODGE, *Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York 14, N.Y.

1917

We extend congratulations to Ken Bell, recently honored by the Lebanese government for his outstanding contribution to the country's leather industry. After Ken's retirement as vice-president of A. C. Lawrence Leather Company about a year ago, he became associated with the Lebanese Industry Institute, sponsored jointly by the Government of Lebanon and the Industrial Cooperation Administration, as a consultant. Ken received one of the nation's highest decorations, the Order of Cedars, officer grade, with a citation for his generous and expert technical advice in the whole field of leather production.

Dud Bell sent a postcard from Innsbruck: "We flew to Munich and picked up a car. Austria is my favorite, especially Vienna. Hope to find a house here for future summers. I intend to make Reunion next year at any cost. Flying to Madrid — hope to see something of Spain — thence London and home. In Italy on this trip, the Italian boys taught me something about money — not the Casino at the Lido, either. I never gamble."

Philip O. Yeaton died recently in St. Petersburg, Fla. He retired as head professor of industrial engineering at the University of Florida in 1947, after teaching there 20 years. We also note with regret the death of Frank C. Howard on October 6.

"Doc" Barnard writes that he is remodeling a house in Wayne, Maine, and is going to live there permanently. He retired last April from Atlantic and Pacific, and intends to establish himself as a consultant in chain store operations and labor relations, confining his activities to the New England states.

Noah Gokey, atfer 33 years of active

Navy service as a Naval Constructor, retired in 1950 and spent the next four years at Webb Institute of Naval Architecture, Glen Cove, N.Y., as head of the Luckenbach Graduate School and Professor of Naval Architecture. "Retiring for the second time in 1954, Mrs. Gokey and I spent the next year and a half in travel, then selected Virginia Beach for a permanent anchorage where we are now enjoying life in our new home on Lake Shore Drive adjoining Crystal Lake. Our one son is also making the Navy his career and recently obtained his Master's Degree in Electronics Engineering at the Navy Postgraduate School in Monterey, Calif. He is married and now living in Newport, R.I., with his wife and three children. My plans for the future are still uncertain, but I may take on another job if retired life becomes too dull. My regards to any Seventeeners who still remember me. I'll make a real effort to attend our 40th reunion, God willin'."

Rad Stevens' company, the Elgin Manufacturing Company, Elgin, Ill., has been very successful in the design and fabrication of packaging machinery, specializing in filling and capping machines. Rad says that "the interesting part of this business is that no two jobs are alike. Each one is a little different and we are constantly striving to do things faster and better. After 5 years of development we have completed the Elgin automatic olive packing machine for automatically placing olives in the jars which the Martini drinkers are familiar with. That has all been done by hand up until now. In the last year we have also produced two high speed machines for Carbide & Carbon for the filling of their Prestone, a new high-speed machine for S. C. Johnson for paste wax line, and have brought out a new high-speed machine for paint packaging. We recently bought the Wrapping Machine Division of the Globe Co. in Chicago and are now in the process of assembling this work in our plant here in Elgin. This will augment our line from filling to overwrapping machines and we believe we have a very good machine and should expand our operations very materially. My son, Al, is vice-president of the company and takes a lot of the rough work off my shoulders."

Brick Dunham: "We decided to take a trip this year. After some consideration we settled on the West Coast. Before any definite plans were made we received a letter from our son, who is stationed at the Edwards Air Force Base on the Mojave Desert in California, stating that he intended to purchase a Volkswagon. This gave us an idea which, following a demonstration of the riding qualities of the car, resulted in our decision to purchase it here and deliver it ourselves. We left home April 7 feeling like pioneers, considering our age, and still a little skeptical about our endurance. Incidentally, we ran right away from the last snowstorm of the New England winter. Our route included a visit with our daughter, Mary, and her family which consists of a Congregational minister for a husband and one son, two years old, in Durham, N.C. Then crossing the Mississippi at Memphis, we pushed on to the Grand Canyon, Hoover Dam, Las Vegas, and Barstow, Calif. By this time we were enjoying the Volkswagon and had the greatest confidence in its steady performance. We ran at 60-62 miles an hour, everything passing us including Volkswagons. However, we were happy and we made our date with our son at the North Gate of his camp right on the minute. At this point, he joined us driving to Covina, Calif., a suburb of Los Angeles, where we spent a weekend with relatives. We had travelled 3800 miles and had purchased exactly 100 gallons of gasoline. From Covina the three of us spent a day in Sequoia National Forest, the next day in Yosemite, and then drove to Carmel, where the boy took the car and returned to camp. At Carmel we were entertained by an old Brockton High School classmate, who has retired there after a full lifetime in the U.S. Consular Service. Our next objective was Albany, N.Y., which we reached by the California Zephyr from San Francisco to Chicago and a flight from Chicago to Albany. Here we visited the other twin daughter, Ann, and her family. Two grandchildren here – then home by a 'B' Liner. The trip took one month, 14 days of which we used in crossing the country. We would like to do it again with the same transportation and even drive home."

We note that John M. Batschy has moved from Vermont and is now located at 1531 Maple Street, Clearwater, Florida.

Heinie Gartner writes from South Wellfleet, Mass.: "Early in 1952, tiring of the ever-increasing pressure and rat-race of modern business, I sold my manufacturing business in Cambridge. Some months earlier, my wife Elizabeth and I purchased an old Cape Cod house, 175 years old, and proceeded to make it livable. The house had not been occupied for fourteen years, and had none of the conveniences which we considered necessary. Who wants to get up at 3 A.M. and travel fifty feet outdoors, in all sorts of weather, to an outhouse – no matter how quaint its architecture might be? So we installed a bathroom, electric lights, power, heat, dug a new well, cesspools, etc., with the result we are now as comfortable as though we were living in the most modern hotel. Never had so much fun and enjoyment sweating over a project. When we were finally settled, and our last daughter married here, we put up our shingle 'the Barncrafters,' specializing in the restoration and repair of antique furniture. I also make pine reproductions of old pieces. We had been preparing for this activity for a number of years before coming to the Cape, and in the process I had accumulated nine woodworking power machines. Elizabeth had taken many lessons in furniture refinishing and stenciling. The most we hoped for here was to have just enough work to keep from getting bored, but our hobby has so mushroomed in the few years we have been here that we have built two additions to the original barn. We now have a large shop and a sizable showroom. Physically, we are working harder than we have ever done before – without the pressure of meeting deadlines. Activity? Lots of it. Got myself elected president of the Wellfleet Board of Trade, a group made up of local merchants and retired business and professional men. And then there's always something doing at the Sportsmen's Club, the Community Club, or the weekly Coffee Club. When the striped bass or bluefish are running, or we want oysters, scallops or quohogs, our project just stands still. Frequent trips to Boston for a bank directors' meeting or visits to our three daughters give us a change and prevent our getting into that proverbial rut. Our family? All educated and happily married. Betty, our oldest, Middlebury and Columbia, is married to a Unitarian minister, and is located in Quincy, Ill., with their three daughters and son. Jean, the middle daughter, University of New Hampshire, two sons and a daughter, lives near Cleveland where her husband manages a dairy. Louise, the youngest, Oberlin and Maxwell School of Government, Syracuse University, married one of her profs and at present they are living in Ankara, Turkey, with their son. Guthrie has a year's leave of absence from Maxwell, and is with the Public Administration Institute of the United Nations. Total eight grandchildren. Count 'em. But no M.I.T. sons-in-law. We have never regretted our move to Cape Cod, where life just rolls along merrily. We have met many real people here from all parts of the world and from all walks of life – a very democratic spirit prevails. Our advice to you big wheels – develop a hobby, practice it, get out of the crazy rat-race, and live longer." – RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass. W. I. MCNEILL, *Assistant Secretary*, 270 Park Avenue, New York City, N.Y.

1918

For some unexplained reason, ye classmates traditionally feel that any communication to their secretary for commitment to printer's ink should be solicited. Alas, even that is often not enough, occasionally producing an awesome dilemma for the scribe when class notes come due. To emerge from such a shadow it is only necessary to pick up the telephone. This time I called Bill Wills, who reports that he saw Sax Fletcher at the Class Agents meeting in Cambridge last September. He had also observed Sherman MacGregory (stage name Jock MacGregor) on TV as the judge in "Star Tonight," and in "Robert Montgomery Presents." Pressed as to his own activity, Bill countered with a cadenza to the effect that John Braislin must have decided well when he abandoned the boyhood dream of building ocean liners and started dealing in dry-land real estate instead. By a technique resembling more of the Sherlock Holmes than of the Clyde Beatty, this comment about John was researched into the fact that Bill is designing a new addition for the Braislin Real Estate Company in Canton, Conn. That was the cheese that baited the trap. We then found out that Bill is doing the Christian Science Church in Winchester, Mass., and has bought an old house in Essex, Mass., just for the inspiration of associating with it in a definitely legal relationship. He sold the place in Cohasset. Remember being there during the 1948 reunion? The soil pipe was then unburied in the front yard,

which ran down toward the rocky shore in undisciplined waves of dumped dirt. It seems that the final result was an expanse of lawn and a luxuriance of garden which became too demanding, so Bill put up the "For Sale" sign and fled quietly to the shelter of an old barn which is now being, or, if my tenses are mixed, has been remodeled into a summer place of larger interior spaces and less exterior chlorophyl.

The real thrill of surpassing himself, however, came over Labor Day when Royal Barry and his partner beat George Wightman and partner in the tennis doubles, despite the stiffness of the lame hip, a touch of gout at the extremity of the other limb, and the general disability of old age. According to my informant, when the last volley had been served, the final shot skillfully placed, and victory was secure, Bill leaped the net to shake hands with the now defeated adversary, tripped on the top tape, and landed squarely in enemy territory, sitting down. Well, that's better than sitting in the chimney corner. Had the contestants been younger, doubtless both sides would have leaped the net, shaking hands as they passed in mid-air. — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey Center, N.H.

1919

Louis A. Brown, Jr., sent some news of himself this month, and it was good to hear from him. Louis is still holding down the job of general manager of Adrian Wilson and Associates, Architects-Engineers, at the home office in Los Angeles. "We now have offices in Japan, Taiwan, Philippines, Greece, and Turkey. We also have many openings for architects, engineers of all types, and other administrative personnel. We especially need architects in the home office. Otherwise, all is quiet on the Coast."

Wayland Bailey has left the teaching field, which he found a "most interesting and satisfying way of life," and is now an engineer with the Shipbuilding Division of Bethlehem Steel Company. Wayland seems to be finding this equally interesting. His son, David, age 25, is doing a good job at McGill Medical School and is going into his third year, and Wayland's daughter has made him a grandfather three times over.

The Waterbury, Conn., *Sunday Republican* had a full-page spread on the Roger Smith's purchase of the Elton Hotel. This included pictures of this 50-year old hotel with impressive French Renaissance architecture. Oscar A. de Lima (Buzz), as you know, is president of the Roger Smith Hotels, Inc., and we are all proud of his successes in this field, as well as others. The article gives a quick run down of his career which includes information that he was "a mining engineer with the Greene Cananea Copper Company, Sonora, Mexico; consulting mining engineer with assignments throughout the Western Hemisphere from Hudson's Bay down to Chile; explored the unknown parts ("it was unknown then," commented Mr. de Lima) of the Amazon basin for the Bolivian government; designed and constructed factory and residential buildings, including the first Roger Smith hotel in Stamford. He has been president of the chain since 1931.

From the Lynn, Mass., *Republican* we learned that George F. Magraw has been appointed as the first departmental education supervisor in the State Department of Correction. "Since 1943, he has been identified with educational work at the Norfolk Prison Colony. He induced Harvard students to volunteer their services by teaching classes in literature, music appreciation, psychology and Spanish. They received no pay. Inmates gave tangible recognition of the service by printing a 'diploma' of thanks." According to George, "such cooperative efforts have a significance beyond the actual service performed. Beside the technical gain in know-how and know-what, inmates have become aware of a practical interest in their welfare." The Boston *Globe* goes on to say that George "gave up a career in mechanical engineering for human engineering and has reconstructed the lives of countless prisoners. The M.I.T. training, plus his background as a Universalist minister, gives him the varied experience necessary for the demanding requirements of working with inmates. Their problems are his problems and he is constantly looking for answers to them."

Robert S. Bolan has moved from Newton, Mass., to Sarasota, Fla. His new address is 829 Oskrey Avenue, South. Oliver F. Freeman has left Hyannis, Mass., for Tonset Road, Orleans, Mass.

We heard of Harry A. Kuljian through a news release written in September, just after Harry had returned from his twenty-fourth trip to the Far East and Middle East. Harry advocates that industry, instead of government, finance foreign projects. Franklin S. Adams, of 2606 Clark Street, Paducah, Ky., writes that he is "still working here on a power plant construction job for T.V.A. as acting project manager. Very seldom see any M.I.T. men in this business." — EUGENE R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

1920

J. Harold Stacey, of Windsor, Vt., and former speaker of the Vermont House, has been named chairman of the Vermont Development Commission. He operates the Stacey Fuel and Lumber Company in Windsor. Arthur Dopmeyer, who is with the U.S. Public Health Service, has moved from Washington, D.C., to Portland, Ore. His address will be 208 S.W. Fifth Avenue. Richard Goldsmith is now living in San Mateo, Calif.

Ben West has been recently appointed office manager of the North Tampa Chamber of Commerce. North Tampa used to be called Sulphur Springs, and Ben says that the Springs there really are wonderful and that it is a beautiful place. Any of you who are in that vicinity ought to find out for yourselves whether it's as attractive as the Chamber of Commerce and its new representative make it out to be. Ben writes, "Please give my kindest regards to the other members of the Class of 1920, of which we all feel so honored to be members." I could wish that some of you would take this "honor" seriously enough to keep in touch with your secretary. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

1921

Echoes of our tremendous 35th Reunion last summer continue to be heard, and it appears that the celebration of our anniversary will extend not only throughout the calendar year but will also carry on as a shining topic for perking up the long winter months well into next year. Recent letters from Miles Zoller, Fred Rowell, Ray St. Laurent, Ted Steffian, Chick Kurth, Mel Jenney, Bob Waterman, and others, give striking evidence of the outstanding enjoyment of the fine program provided last June by the capable Reunion Committee. Page after page expresses the sincere appreciation of those who were able to attend. One letter tells of the substitute reunion of one group which was unable to meet with us in Pine Orchard and Boston. We know the members of the Reunion Committee are greatly pleased and that they join in sending hearty thanks to those who have taken the time to write such kind words.

As we did five years ago, your Secretary made another Sheldon House reservation at the conclusion of our stay in Pine Orchard, based on the generally expressed opinion of many members of the Class that this location is the best of the several we have tried. Much to the amusement of the Sheldon House staff, the reservation slip was duly, if facetiously, completed and deposited in the official file, specifying that the 40th Reunion of the M.I.T. Class of 1921 is to be held there on June 9, 10 and 11, in the year 1961, assuming that Alumni Day will be proclaimed for June 12, 1961 (Don Severance'38 please note!). Manager Carl S. Graves writes that the slip now bears an additional endorsement: "Mrs. Houghton and Mrs. Kantro promise perfect weather, on our word of honor — but we won't be here!"

Congratulations to Chick Kurth on his promotion to vice-president and director of electric and steam operations of the Boston Edison Company, effective last September. Chick has been continuously associated with Boston Edison in various technical capacities since our graduation, and had previously done his thesis work and spent several summers with the organization. Since 1952, he has been assistant vice-president, and superintendent of the production and system dispatching departments.

Congratulations to Dr. Walter J. Hamburger, director and treasurer of Fabric Research Laboratories, Inc., Dedham, Mass., who was awarded the Olney Medal on September 13 at the Perkin Centennial in New York. The highest honor given by the American Association of Textile Chemists and Colorists, the medal is awarded annually for outstanding achievement in the field of textile chemistry. Walt received his degree in Course II with us, returned to Technology for his master's degree in textile technology in 1941, obtained his doctorate in polymer mechanics from Polytechnic

Institute of Brooklyn in 1948 and an honorary M.S. degree from Lowell Technological Institute in 1952. He has been actively engaged in textile research since he and two associates founded Fabric Research Laboratories in 1942 as research, development, and consulting specialists for textile and allied industries.

A recipient of the Certificate of Distinction from Brooklyn Polytechnic in 1956, Walt is an honorary member of the American Association for Textile Technology and was the Edgar Marburg Lecturer for the American Society for Testing Materials. He is also a member of Sigma Xi, past national councilor of the American Association of Textile Chemists and Colorists, past president of the Fiber Society, a fellow of the Textile Institute of Manchester, England, and a member of the American Association for the Advancement of Science. Currently, he is a member of the General Research Advisory Committee of the Textile Research Institute, a director of the Lowell Technological Institute Research Foundation and treasurer of its building association. From 1941 to 1944, and again in 1953, he was lecturer on textile research at Technology. In 1943 and 1944, he lectured at Simmons College. From 1949 to 1952, he was adjunct professor at Brooklyn Polytechnic Institute, and he is now a visiting professor at Lowell Technological Institute. In his acceptance speech on "Science in Industry — The Challenge to Textiles," Walt outlined the need for the industry to recognize the importance of scientific research and to compete for more scientists and engineers because of the opportunities for advancement in chemistry, physics and engineering in one of our basic industries.

Honored by Technology in their selection as Alumni Members of the M.I.T. Corporation Visiting Committees are: John W. Barriger, 3d, president of the Pittsburgh and Lake Erie Railroad, for the Committee on M.I.T. Libraries, and Norborne L. Rawlings, executive vice-president and general manager, Newport News Shipbuilding and Dry Dock Company, for the Committee on the Department of Naval Architecture and Marine Engineering. We regret missing an opportunity to talk to Jack when he phoned during a recent visit to New York.

A welcome note from Bob Waterman of the Schering Corporation, Bloomfield, N. J., encloses a clipping from the *Journal of Commerce* telling of the retirement of William B. Plummer as president and director of Indoil Chemical Company, Chicago, a subsidiary of Standard Oil Company of Indiana. On September 1, Bill became a private consultant to the petrochemical field, with headquarters at 4020 Lincoln Building, 60 East 42nd Street, New York 17, N. Y. Hilliard D. Cook writes a fine letter from our old home state and says: "After two years of consulting work in the paper industry, I have joined the faculty of North Carolina State College, School of Forestry, Raleigh, N. C., as lecturer and consultant in pulp and paper technology. I still have time for outside consulting work, but the principal job will be to hand the stuff on to the next generation. It is great to have the opportunity to do it systematically. My old friends might like to hear that my son, Jack, married Pat Dight a year ago last December. Last December, they presented Hope and me with twin granddaughters, Pamela and Priscilla. Jack is a junior engineer in the New York State Highway Department."

Abram E. Watov of Trenton, N. J., former senior laboratory engineer in the New Jersey State Treasury Department, received an award for suggesting that the State organize a bureau of standards and testing to save considerable sums paid to commercial laboratories. Besides the award, he was also named chief of the new bureau. Lawrence I. Harris, former senior instructor at Boston Trade High School, is now a member of the Science Department at Dan McCarty High School, Ft. Pierce, Fla. Under the caption "3-D Dean," the M.I.T. *Observer* says of the selection of Professor Jack Rule, head of Course IX and the Section of Graphics as the Institute's Dean of Students: "New Dean is widely known for his research and development in various phases of three-dimensional vision, including stereoscopic photography and motion pictures."

Fred M. Rowell, vice-president and general manager of the Cape and Vineyard Electric Company, Hyannis, Mass., wrote this much-appreciated account of a supplementary reunion of the Class of 1921: "I thought you would want to know about a junior 35th reunion which was held by a group of '21ers on Cape Cod on June 21. For one reason or another, none of the attendants at this session was able to get to the bona fide Reunion — all with deep regret. We met during sessions of the 'New England Regional Discussion Group.' All of us have the problem of devising rates that will sell service to the best advantage and still assure the companies the 'fair shake' necessary in order to carry out their obligations to the public and the owners. In attendance were John A. Buckley of the Boston Edison Company, Albert Calvert of the New England Power Service Company, Charles O'Donnell, Boston Gas Company, and myself. A usual attender, Charles A. Williams, United Illuminating Company, New Haven, Conn., couldn't make it this time. Natalie and I attended the hospitality hour and the following banquet and, happy to relate, there seemed to be about as much discussion of the 1921 Reunion as there was of their rate problems! The fellows unanimously agreed that they expected to be on hand at the time of our 40th Reunion. Regards." In his letter of thanks to the Reunion Committee, Miles Zoller voices a request that brief sketches be published in these columns on all who attended the reunion. We want to thank Miles for his kind words and to assure him that the data will be published serially.

Three members of the 1921 Second Generation at M.I.T. Club made news with the inclusion of their names in the latest issue of the Dean's List: Franklin T. Flaherty, Jr.,'56, Peter C. Card'57, and Malcolm M. Jones'57. Franklin is the son of Frank and Mrs. Flaherty of Swarthmore, Pa. Peter is the son of Tom and Mrs. Card of Fairhaven, Mass. Malcolm is the son of Mrs. Jones and the late S. Murray Jones of Waban, Mass. At the June Commencement, at which Jack Rule was Marshal of the Faculty and Ed Schwarz was a member of the Faculty Committee, Franklin T. Flaherty received his bachelor's degree in Course II; Robert M. Kendall, son of Jack and Marge Kendall of South Pasadena, Calif., was awarded a Kimberley-Clark Fellowship in the Department of Chemical Engineering; and Robert M. Lurie'52, son of Mrs. Lurie and the late Joe Lurie, received the Sc.D. degree in Course X.

In the Junior League of the Class of 1921, Gail Louise Burckett, daughter of Ethel and the late Max Burckett, was married to William L. Brandt of Baltimore on August 18 in Maplewood, N. J. Leslie Joy, granddaughter of Saul and Rigi Silverstein, arrived May 4 at the home of Mr. and Mrs. Lee Marvin Silverstein. Mel and Mrs. Jenney have a new grandson, already scheduled as M.I.T.'78. Pat Lesser, daughter of Lou and Mrs. Lesser of Seattle, continues in the top-flight golf news. She has won the Western Amateur and U.S. Women's National Golf championships. Martin Wenick, son of Joe and Mrs. Wenick of Caldwell, N. J., specially invited to one of President Eisenhower's news conferences some two years ago, is a co-editor in chief of his top-rated high school newspaper which has won several prizes for journalistic merit and which won mention in local big-time newspapers because its quality enables it to operate entirely on the proceeds of student subscriptions without advertising or school subsidy. Thanks to Orville B. Denison, secretary of the outstanding Class of 1911, we have a clipping from the Framingham, Mass., *News*, relating to the bachelor dinner for Myles Huntington, son of Dana C. Huntington, vice-president of the Denison Manufacturing Company. Dennie can take a big bow for his excellent 45th reunion issue of his Class newspaper, *Thelevener*.

Arthur N. Brambach, who represents the electronic equipment division of International Business Machines, has a new home address at 608 140th Street, N.E., Bellevue, Wash. Harold N. Ewertz has moved to 22A Parkway Village, Cranford, N. J. Dugald C. Jackson, Jr., can be reached at Harmony Hills, RFD, Havre de Grace, Md. Francis B. Kittredge's office address is 10 High Street, Boston 10, Mass. Norton G. Raymond has moved from Highland Park to 16112 Ashton Road, Detroit 19, Mich. Glenn Fargo is president of the Fargo Company, St. Petersburg, Fla. Addresses have been received for: Dayton T. Brown, Harry Butters, Charles B. Dicks, Jr., Oscar R. Duyos, John R. Gallimore, Mark V. Hamburger, Colonel Robert A. Hill, Henry A. Hutchins, Francis J. Keenan, William B. McGorum, Lemuel Pope, Professor Walter C. Sadler, Emmett J. Scott, Jr., John A. Scott, Herbert V. Thaden, General Patrick H. Timothy, Jr., Vice Admiral Homer N. Wallin.

On behalf of the entire Class, we extend sincerest sympathy to the families of three members who have left our ranks. Andrew Carl Jensen, Jr., died September 22 in Boston. Born March 3, 1898, in Natick, Mass., he prepared for the Insti-

tute at Natick High School. At Technology, he was associated with us in Course XV2 and was a member of Corporation XV, Tech Show, and the freshman football and baseball teams. In World War I, he was a private first class in the Air Service, assigned to the Cornell University unit. For many years, he resided in Swampscott and maintained his own prominent consulting engineering firm in Boston, serving many well-known national organizations. Recently, he had lived in Worcester, Mass., where he was works manager for the leather manufacturing firm of Graton and Knight. Andy was active in Class affairs and a regular attender at our annual meetings. He leaves his wife, Mrs. Helena Jensen; a son, Andrew 3d, Harvard'49, of Worcester; and a daughter, Mrs. Jean Marie Crocker, Simmons'45, of Waterville, Maine; and two grandchildren.

Luman Tenney Thurber died at his home in Brookline, Mass., on September 5. A retired engineer, he was born in Minneapolis and attended M.I.T., Brown, and the University of Chicago. In World War I, he was a captain in the Air Service, Military Aeronautics, and in the Aviation Section, Signal Corps, spending almost a year and a half overseas in the A.E.F. He was a director of the Thurberator Corporation of New York City, doing research on a carburetor he invented. During World War II, he was a combustion engineer with Raytheon Manufacturing Company. He was associated with E. R. Knott Machine Company, Sharon, until his retirement. His mother, the late Caroline N. Thurber of Brookline, was a well-known portrait artist.

Captain Theodore Leon Schumacher, U.S.N., passed away at his home in Annapolis. The date is unknown. He had been in the U.S. Navy since 1913 and had served the Bureau of Ships. He received his master's degree with us in Course XIII-A. His decorations included the Legion of Merit and the Brazilian Order of the Southern Cross, of which he was a Commander. He is survived by his wife, Mrs. Elizabeth T. Schumacher.

A very Merry Christmas and a most Happy New Year to you and yours from all of your Class officers and committee chairmen. — CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N. J.

1923

The *Journal-Courier* of New Haven, Conn., carried the news on July 11 that Kent T. Healy, VI, was named director of social sciences at Yale University. Previously he had been acting as chairman of the Department of Economics and professor of transportation. In both fields he is considered a leading authority. Kent received a B.A. from Harvard in 1921 and a S.B. in electric engineering from the Institute in 1923. His first job was with the New Haven Railroad as a switchboard operator, then later he became an inspector and finally a cost engineer. He helped reorganize the road in 1947. He spent 1926 in Europe, making a study of railroads there. The following year he completed a comparable study of railroads in this country. He is the author of two books, *The Electrification of Steam Railroads*, and *The Economics of Transportation in America*. For the past 23 years he has been a member of the Yale Committee on Transportation and helped earn the fine reputation that committee enjoys.

Alfred Allard Clough, I, was married June 30 to Caroline Eaton at Webster, N. H. Al is a civil engineer with the Department of Public Works of that beautiful state. Congratulations!

Brigadier General Harrison Shaler, USA-Retired, II, has been appointed corporate Army advisor to Aerojet-General Corporation. In World War II, he was General Patton's Ammunition Officer in Morocco and Italy. Later, he became assistant deputy U.S. High Commissioner for Austria under Generals Clark and Keyes. He retired in 1954. In his new position, he will operate from Aerojet-General's Azusa, Calif., headquarters. Albert S. Redway, XV, president of the Manufacturers Association of Connecticut, breaks into the news again. Among other things, he has endorsed a plan to limit federal taxes to a top rate of 35 per cent on both individual and corporate incomes. Al, you are on the right track but your ceiling's a little high. Can you lower it?

During September, David W. Skinner, XIV, vice-president and general manager of Polaroid Corporation, was one of the principal speakers at a two-state industrial management conference at Lowell State Teachers' College. Some 600 delegates from 300 Massachusetts and Rhode Island industrial firms attended.

The Review reports the death of Paul J. Culhane, V. No other information is available at this time. — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 North Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

1924

At its annual meeting, held in Boston in September, the Illuminating Engineering Society heard from its new president. Said Marshall N. Waterman, "Mr. Breadwinner, happy with the good lighting in his factory or office, is beginning to 'protest the markedly poorer lighting that he comes home to each night.'" At least that's what a newspaper report said, but we doubt very much that Waddy ever said "Mr. Breadwinner!" He was misquoted, that's for sure. Another lighting engineer dropped by the other day; Leland K. Franke of Rochester. Lee has a sizable farm outside of town with real pay crops, a nursery and Christmas tree grove, or bush, or plantation, or whatever it's called. And another classmate, a lighting man since graduation, has deserted the field for money. Clinton B. Conway of Baltimore has turned banker. In September, Clint became manager of the Savings Department of the Loyola Federal Savings and Loan Association "with assets of more than $75,000,000." That's what his letter said. Probably after all these years as a public utility man he felt a sum like that deserved repetition.

One of our other bankers, Joseph M. Naughton, president of the Second National of Cumberland, has received The Call. He has been named a member of the advisory group to the Senate Banking and Currency Committee, now attempting a complete revision of federal banking and credit laws. Another kind of honor goes to John T. Blake, Simplex Wire and Cable research director. In 1924, the Institute awarded him a Ph.D. Last June, Tufts gave him an Sc.D.

Just out: *Elementary Crystallography*, by Professor Martin J. Buerger, an introduction to the fundamental features of crystals. Everything is relative, and Martin says this, for the subject is truly elementary — but don't pick it up for light bedtime reading. While we're in the field of education, Dr. Antole R. Gruehr, head of Brooklyn Polytechnic's Economics Department, has introduced a new graduate course this fall; personnel administration.

Travel Notes: The John H. Henningers of Reading, Pa., spent the early fall in Honolulu. Note on card: "John likes the [can't read it] dancers at Waikiki!" Well, maybe we'll see some movies at our next reunion. And our most famous and farthest travelled classmate, Chief Engineer Simonds is beached. Unloading oil and gas on the Labrador coast, his ship hung up on an uncharted ledge. By the time they got her off she was in need of repairs, so they limped in to New York just in time for Hank to join a serious group of beer drinkers in the annual N. Y. Club trek to Ruppert's Brewery. Again '24 topped all other classes in attendance with a total of 16. They got a box of cigars, some tape measures, and an extra round of drinks. All were legitimate New Yorkers except for two California ringers, Hank and Bill MacCallum. Bill, by the way, is in danger of losing his title as class Movie Mogul. At least he has company in the business now. After 30 years in the Army and a period at University of Pennsylvania, Colonel Charles S. Stodter has become executive secretary of the Society of Motion Picture and Television Engineers.

Late in September, Señor Cornish of Old Mexico showed up in New York where he was tendered a luncheon at the M.I.T. Club by a little group of his classmates. Nish, by the way, is running the Mexican fiesta again this year. He's done it so often new that he's practically a pro. And you may be sure it will be good. March 14 to 16. If you're planning a late winter vacation, look into it.

Sorry to have to report three deaths in recent months: William E. Pugh, Course VI, in Tulsa; Edward H. McArdle, Course V, of Gilmanton Iron Works, N. H.; and Robert C. Webster, Course II, Glen Ellyn, Ill. No further information is available at this time.

We have three new members of M.I.T. Corporation Visiting Committees: Hudson Hoagland for the Department of Biology; Philip K. Bates, Department of Food Technology; and Luis A. Ferre, the M.I.T. Libraries. Luis, by the way, has just given a library in Puerto Rico.

And so, the last bit of news for 1956. What were you doing 35 years ago? Were you about to sit down at our Sophomore Banquet to hear Charlie Pipkin and Major Putney, the latter regaling us with "some of his characteristic stories;" or maybe go

to the Majestic to see Nora Bayes, or Keiths to see Trixie Friganza? Maybe your mouth was watering for some of that free hot cocoa or hot milk that Dr. Morse said we needed. Or maybe you were one of those taking off with the Musical Club for its most ambitious tour of the hinterland. Well, that was a long time ago, but it's fun to remember. For now, a very Merry Christmas to all of you from all of your Class Officers and especially your Secretary. Be back again next year. — HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

1925

News regarding classmates this month is extremely sparse, so possibly it is time your secretary recalled that he did a little traveling in June, 1956, but neglected to make this known to many of you. He attended a meeting sponsored by the University of Denver on the general subject of administration of sponsored research. The meeting was held outside of Estes Park in the Rocky Mountain National Park. Mrs. Foster was able to make the trip also and had many opportunities to enjoy the beautiful scenery of Colorado while your secretary attended meetings. The evening we arrived in Denver, we visited Ben Oxnard and his wife, and except for the fact that neither of them were enjoying the best of health, we had a fine evening together. Ben had arranged for Whitney Newton'43, also connected with Ben's Company, the Great Western Sugar Company, and Mrs. Newton to join us and help entertain us for the evening.

Since we had one day to look around Denver and vicinity before attending our meetings, Ben outlined an interesting tour which took us through Central City, Idaho Springs, and finally into the Rocky Mountain National Park where we traveled the Trail Ridge Highway — four miles of beautiful highway above the timber line at nearly 12,000 foot elevation. Following meetings, Mrs. Foster and I took the California Zephyr to Salt Lake City, and the next day, with a rented car, visited Bryce and Zion Canyons and the North Rim of the Grand Canyon. We then headed east, where I attended a meeting of the Engineering Colleges Research Council at Ames, Iowa, and then on home to see our son Richard married to Helen Ulvila on June 30.

The other bit of news concerns George Caine, Course X. George has recently been named manager of the Manufacturing Department of Tidewater Oil Company's Eastern Division, with his headquarters at the Company's new Tidewater Flying A Refinery, apparently under construction near Delaware City. George was formerly general superintendent of Tidewater's Bayonne, N. J., refinery. His assignment prior to the new appointment involved the direction and coordination of all activities relating to the planning, design, and construction of the 130,000-barrel-per-day Delaware Flying A Refinery which is to be the world's most modern. George has been with the Tidewater Company since March of 1926. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

1926

Here we are back in the groove at Pigeon Cove. This is such a beautiful Sunday morning that many things are coaxing us outside. I'll try, however, not to make these notes look as though they were being written in a hurry. I mentioned last month that I have a wooden chopping bowl that I use as a file — or let us say a reservoir for class notes. I have just been churning it up and find several bits of news we were unable to tell you about last month because of the reunion report.

One of the first is an announcement of the wedding of Class President Dave Shepard's daughter, Katherine, on July 7, to Leon Freeman, Jr., at Elmsford, N. Y. Willard Vaughan's two sons kindly sent their graduation announcements; Doug from Swarthmore High School, and Willard, Jr., from Franklin and Marshall College. Your secretary is always pleased to get such announcements and, even if they do not get published in the Review until months after the event, it is still news to most of the Class. I have just come across "Hoppy's" card, which says "Giles E. Hopkins, Research Director, Rayon and Acetate Fiber Producers Group, 350 Fifth Avenue, New York City." The last card he gave me had the same title but it was for the Wool Association. It seems to me that as "Hoppy" handed me the card at reunion he was muttering something about — "If you can't lick 'em, join 'em." No wonder he looked so well fed!

The secretary of our yacht club mentioned to me some time ago that she had attended Mr. Johnson's retirement party, to which I replied blankly, "That was nice." Then she sent me the program and classmate Dick Johnson's picture was on the cover. I suppose this is the start of a trend. Most of us are counting another dozen years, or so, but a chosen few will be thinking about it at the time of our next reunion. We all must bow to classmate Ben Howe of Denver, who has worked out a method of retiring while "working," and manages to spend every winter in Mexico. I suppose by the time the old plutocrat reads these notes he will be packing his bags. A few years ago, we pointed out in the Class Notes some of the advantages of New England as a spot to consider for the leisure years ahead and, at reunion, Ray Bete reminded us of these references and said that he had taken heed. Ray has purchased a retirement home at West Yarmouth, Mass.

Well, we can think about these things anyhow, but for most of us they are still a long way off for we are now at the peak of our business usefulness. This is proved time and again in clippings about classmates. Here is one about "Mooney" Owen from the Washington, D. C., *Post and Times Herald*. Mooney was recently elected to the post of board chairman of the Perpetual Building Association, the largest savings and loan association in Washington, D. C., with assets of over 230 million dollars. Congratulations Mooney! Al Lamoreux, according to the Marlboro, Mass., *Independent Republican*, is now listed in the *Chemical Who's Who*. Al is in the research division of Dennison Manufacturing Company, where he recently completed 30 years service. Al has another claim to fame — his family. Every one of his seven children is currently at school, with the oldest son, Bob, at the Naval Academy, and the oldest daughter, Jeanne, at St. Joseph's College, Emmitsburg, Md. Can anyone top that for an educational project?

Here's a post card from Gordon Spear from Lake Louise. I arranged to see Gordon in Detroit this summer and had to postpone my trip. When I got there he had left on one of his annual motor tours and, according to his postal, this one to the Canadian Northwest was the best trip yet. The time is passing and I must take Heidi for her training walk. She is so large and powerful now, having just had her first birthday, that unless I can succeed at my training program, you are apt to see me go sailing through the air on one end of a leash with a St. Bernard on the other. Don't forget to send your secretary any and all announcements and tantalize him with a post card when you go on a trip. It doesn't seem possible on this balmy October day that we are writing December notes, but that is what the reminder letter from The Review says. Being so reminded — *Merry Christmas* to all of '26! — GEORGE WARREN SMITH, *Secretary*, E. I. du Pont de Nemours and Company, Inc., Elastomers Division, Room 325, 140 Federal Street, Boston 10, Mass.

1928

It gives me great pleasure to report to the Class that Walt Smith, who has been of great help to George Chatfield, our class secretary, in preparing notes for The Review during the past four years, and who was the spark plug in bringing out the 1928 class book at our 25th reunion, has accepted the chairmanship for our 30th reunion. Walt has left no stone unturned to get plans underway in finding facilities which would accommodate our Class. The class program of a family reunion on a "Back to Tech" basis, undertaken for our 25th, has been adopted by other classes with equal success and, hence, the facilities at M.I.T. have been reserved each year by the Alumni Association for use by the 25-year class.

Prompted by these facts, Walt called a meeting of the steering committee of our 25th to explore the availability of proper facilities, both as to size and location, which would be available on June 13 through Monday, June 16, Alumni Day in 1958.

The steering committee was made up of Bill Carlisle, Jack Chamberlain, Jim Donovan, Roland Earle, Bill Hall, Bob Harris, Mark Kolligian, Slim Maeser, Dave Mathoff, Art Nichols, Rudy Slaytor, Walt Smith, Herm Swartz, and Abe Woolf. They were unanimous in recommending to Walt the Marshall House in York, Maine, which is only a short distance off the Main Turnpike. Accordingly, a reservation has been placed with the Marshall House. Members of the Class will be glad to know it is possible to drive by parkways from New York City to within two miles of the Marshall House, and planes can be taken to Portsmouth, only a few miles away. Thus, we have an accessible place

with golf, swimming, tennis, badminton, and other sports facilities, located right on the ocean. The Marshall House is well equipped for lobster-clambake outings and looks like an ideal place for the Class to meet.

I am sure all members of the Class join me in congratulating Walt for making plans at an early date and in finding adequate facilities. Please mark your calendar now for another 1928 reunion in 1958, beginning Friday, June 13 through Alumni Day, June 16. These columns will have more information on the reunion in the future. Best wishes to all. — RALPH T. JOPE, *President*, Room 1-274, M.I.T., Cambridge 39, Mass.

1930

We had a good response this month from our classmates, which is greatly appreciated, and I hope the good work will continue.

From Falls Church, Va., Colonel Angelo Ricciardelli sent word that he has been transferred as Commanding Officer of Japan Signal Battalion and Camp Fuchenobe, Honshu, Japan, to Research and Development Division, Office of Chief Signal Officer, Pentagon, Washington, D. C. From the Lexington, Mass., *Minute Man* (a weekly independent newspaper), comes word that Charlie Abbott, of Richard Road in that town, has been appointed chief electrical engineer for the NEGEA Service Corporation, a subsidiary of the New England Gas and Electric Association. Charlie has been with NEGEA since graduation, having started as a junior executive trainee of the Cambridge Electric Light Company (another subsidiary). In 1933, he was made distribution engineer and, in 1939, he became electrical engineer. He served in that capacity until 1947, with system operating duties added during 1942-1947, and then joined NEGEA Service Corporation as electrical engineer. He is married, and is presently a member of the Planning Board of the town.

Morris N. Young, M.D., sent us a note, heading it "News Item." He's located in New York City, and says he donated his book collection of magic and related fields of deception to the Library of Congress (jointly with John J. McManus' similar collection). Formal ceremony occurred on May 17 in Washington, D. C.

From Kansas City comes word from Norm O'Shea that May, 1956, rounds out five years in his present assignment at the Lake City Arsenal, for Remington Arms Company, and he thinks a new assignment may be coming soon. George Perry, from Oberland Park, Kansas, writes that he is now in property management, which he says is a far cry from mechanical engineering. His elder daughter is married and he has one granddaughter, while his younger daughter started college this year. He says he occasionally sees Will Paine but rarely any of the rest of the classmates.

I had a good letter from Bill Eaton in New York City. Although his office is in New York, he spends much time traveling and rarely sees any of the members of the Class of 1930. After seven years as chief engineer for Landers and Griffin, Inc., at Portsmouth, N. H., he is now district engineer for Morrison-Knudsen Company in New York, and when he is not traveling about the eastern half of the United States, he is contented to spend his leisure hours, which are not many in the construction business, with his family in their new home in New Jersey. Bill has four children — ages 13 to 2 — and his one ambition is to spend as much time with his family as he spends in airplanes, taxis, and hotels. If any of our classmates happen to be passing through town and would enjoy swapping talk over lunch, Bill suggests that you contact him at his office — 150 East 42nd Street, New York City — and plan to have lunch with him at the new M.I.T. Club in the Chatham.

It was good to hear from Joe Twinem, who has taken the time to give us a full account of his activities since graduation. He says that the Twinems have always been on the move, going from one interesting field and country to another. He is now engaged in putting down some oil wells; one in Montana and two in Wyoming. Prior to his current activities he was affiliated with the Warren Foundry and Pipe Corporation as general manager of their Mount Hope, N. J., division, and manager of their Phillipsburg, N. J., division. Both operations employ 400 men each. Joe has held many interesting jobs as construction engineer, geologist for the State of Maine, and has worked for several mining corporations on the development of potential oil structures. During and in the years right after the war, he was a special administrator for the San Francisco Ordnance District, and a consultant for the War Department, Far East Command in Tokyo, Japan. Joe also worked as a specialist for both the Office of Price Administration and National Production Authority for metals and minerals division, and as a business analyst for the Office of Price Stabilization in Washington.

The Alumni Dinner last June was well represented by the Class of 1930. The following people attended: Joseph J., James J., and Mrs. Joseph J. Anastasi; William Buracker and Mrs. Willis H. Durst; Elmer R. Burling and Mrs. Burling; Mr. Fred N. Dickerman; Joe Harrington and Mrs., Joseph Harrington, 3rd, and Miss Joan Harrington; Sidney L. Kaye; Allen Latham, Jr., and Mrs. Latham; John J. and Mrs. Scheuren with Mr. Frederick Scheuren; Parker and Mrs. Starratt; Joseph R. and Edward R. Stevens; Charles R. and Mrs. Prichard; Myron T. and Mrs. Smith; and William J. Harris. I know that all of you are very glad to see that a member of our Class, Sid Kaye, was Chairman of the Committee for the Alumni Day Dinner which was held at Rockwell Cage.

The following changes in address have been received: Dr. Robert T. Armstrong, Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.; John J. Byrne, 2648 6th Avenue, Troy, N. Y.; Jack R. Bloom, 1499 Irving Street, N. W., Washington 10, D. C.; James G. Bowen, 106 North 2nd Avenue, Phoenix, Ariz.; Major General Charles K. Gailey, Jr., 5524 11th Street, N., Arlington, Va.; George M. Houston, Jr., 4404 Mockingbird Lane, Dallas, Texas; Merritt L. Hulett, P. O. Box 22, Schuylerville, N. Y.; Walter Lemann, Jr., 2052 Ferndale Avenue, Baton Rouge, La.; Dr. Charles H. Lutz, 183 Lincoln Avenue, Mineola, N. Y.; John J. McElroy, Maverick-White Horse Mills, P. O. Box 1026, Greenville, S. C.; Milton Mezoff, 873 Canterbury Street, Roslindale 31, Mass.; Ralph W. Peters, 249 Hollywood Avenue, Rochester, N. Y.; William F. Richardson, 787 Hanover Street, Hanover Center, Mass.; Raymond G. Rolin, 360 Borchard, Ventura, Calif.; Asa V. Shannon, M.R.D. Corps of Engineers, 508 Farm Credit Building, Omaha, Neb.; Walter S. Smith, 1428 N. Loretta Street, Tulsa, Okla.; Captain Thomas A. Turner, Jackson Municipal Airport, P. O. Box 1832, Jackson, Miss.; Hugh Wallace, 156 Amesti Road, Watsonville, Calif.

The officers of the Class of 1930 and the secretaries join with me in wishing you all a Merry Christmas and a Happy New Year! — GEORGE P. WADSWORTH, *Secretary*, Room 2-287, M.I.T., Cambridge 39, Mass. LOUISE HALL, *Assistant Secretary*, Box 6636, College Station, Durham, N. C. RALPH W. PETERS, *Assistant Secretary*, 249 Hollywood Avenue, Rochester 18, N. Y.

1931

As a neophyte at this, I'm just beginning to appreciate some of the problems of a class secretary. Deadlines come fast and news comes in slowly. Gordon Speedie and I will do our best. However, if you are interested in more news of classmates, have any suggestions for making these notes more interesting, or just want to kibitz, we'd like to hear from you.

Shortly after our 25th Reunion, Gil Roddy became a proud father for the first time. In a recent letter, he said, "I enjoyed the Reunion and the fellowship of all our classmates who attended. Not very long thereafter, our son, Gilbert Morgan Roddy, Jr., was born at the Emerson Hospital in Concord with two hands, two feet and only one head. He is a strong and healthy baby and has been thriving ever since, but he does want refueling at what seems to me unreasonably frequent intervals." (Note: Our attention has been called to the fact that Gil became President and Director of Emerson Hospital, Concord, Mass., before he embarked on the fatherhood venture.) Continuing, he wrote, "During August I had the pleasure of playing in the senior division of the United States National Doubles Championships at the Longwood Cricket Club. My partner and I were eliminated on the third day of play but we enjoyed ourselves tremendously and had some good matches. The tournament was won by Jean Borotra of France, and Harry Hopman of Australia, but we did not get quite far enough to have the opportunity of playing them."

Sid Miller — who caused such merriment by dashing out of one of the buses returning from the 25th Reunion Clambake to pick up his car — has been elected to the Board of Directors of the Avon Sole Company. Sid is also known in the trade as an expert in the compounding of rubber chemicals and the practical application of rubber materials in the shoe industry.

While in Detroit recently, I spent a very pleasant evening with Ducky (Ike) Graham, Ralph Cross'33, John Rumsey '33, and their wives. Between reminiscences of our days at Tech, Ralph and John gave us an interesting insight into the problems of automation and materials handling in the automotive industry. Ducky and his wife, Jo, had spent some time in Korea and Japan and told us some of their interesting experiences.

An article in the Portland, Maine, *Express* tells of Ed Norris' election to the Board of Directors of the Pine State Loan and Building Association. Ed served five years with the Engineer Corps during World War II in England, Africa, Italy, India, and China and was awarded a battle star. Randy Binner seems to be thriving in Chicago, where he is chief engineer of the Great Lakes Carbon Corporation. His older son is in Dartmouth and the younger is making a name for himself as an athlete and scholar at Highland Park, Ill. His daughter, Hope, is a very charming young lady, just about the same age as my daughter, who is twelve.

Also talked with Lou Morse during a visit to Detroit. He has bought an extra copy of the 25th Reunion Class Book and presented it to the University Club. The reason, he said, was because he wanted to have an M.I.T. publication out in front with the Yale and Harvard books. Saw Bill Roberts and his family while passing through Williamsport, Pa., a few weeks ago. Bill is vice-president of Glyco Products Company. It was good to see him again and to meet his attractive wife, Esther, and their two children, Martha and William.

A number of classmates have moved recently. New addresses include Charles A. Bicking, The Circle, R. D. 1, Lewiston, N. Y.; Raymond Donway, 4715 Jumano Street, San Diego 17, Calif.; Captain Stephen C. Gawlowicz, 345 Tremont Street, Braintree 84, Mass.; Mrs. Mary M. Handrahan, Residencia Sola, Calle de Valencia 169, Barcelona, Spain; Robert M. Price, 792 Orange Street, New Haven, Conn.; Captain James H. Rodgers, 7704 Exfair Road. Bethesda, Md.; Robert M. Sprague, 69 Handsome Avenue, Sayville, L. I., N. Y.; and William H. Williams, 931 Cleveland, Kansas City 1, Kansas. Until next month. — EDWIN WORDEN, *Secretary*, 9 Murvon Court, Westport, Conn. GORDON SPEEDIE, *Assistant Secretary*, 22 Harvard Avenue, W. Medford, Mass.

1932

Quite a few notes from our classmates this month, and more and more talking about coming back for the 25th Reunion. A note from Lou Vassalotti, vice-president in charge of operations with the W. E. Wright Company of Akron, Ohio, building supplies and ready-mix concrete makers: "Have been in Akron since May, 1955. Like it OK but miss Cape Cod. Still own home on Cape, family summers there. Have boy 19, sophomore at Brown University, daughter 15, sophomore in high school. Hope to make 25th in Cambridge next June."

John Griswold, with General Chemical Division, Allied Chemical and Dye, writes from 40 Rector Street, New York 6: "Position — Specialist. Work includes idea-getting, preliminary appraisal of new products, process improvements, some process design, last-resort troubleshooting, all phases of company activities. An up-to-date (auto)biography is given in *Chemical Who's Who*. Have recently developed a sloop portable sailing rig which can be installed on any 12-foot flat-bottom rowboat, as available in many summer resort camps. It was very successful on Lake Champlain last summer. General details will be furnished to other parties who like to sail but don't wish to carry the boat."

Our creative classmate, Alfred Halper, is the New England winner of the National Association of Home Builders. He is chairman this fall of the National Home Week and the Fall Parade of Homes. Al's most cherished award, however, is a plaque from the Wayside Acres' residents for his pride of development, ingenuity and consideration. As mentioned in the notes, Wayside Acres was his project. By now Al has designed and built several million dollars worth of medium priced homes.

Russ Pratt is now with Joy Manufacturing Company, John Lawrence's domain. He is a design engineer at their Claremont, N. H., plant, where, he writes: "We're designing and building coal mining machinery, which is most interesting. Ruth and I are enjoying Claremont and the beautiful countryside. Hope to see you at the 25th!" Jim Snow has been with Lever Brothers for twenty years, living in Arlington, Mass., first in production and now in engineering. Bob Loeb has been with the Glenn L. Martin Company in Baltimore since November, 1954, on the TM-61 and B-57 programs.

Dominic Perry writes from 533 Paddock Avenue, Meriden, Conn.: "I am assistant division engineer of construction in the New Haven area for the Connecticut State Highway Department. I have been working for Connecticut State for 17 years. I have a family of two boys and one girl. I would appreciate hearing from some of the boys, if and when the addresses of the '32 Class are known."

Jim Ritchey is with the University of Louisville where he is department head of industrial engineering. A card says: "We moved to Louisville in 1942. I teach production control in the University of Louisville, Division of Adult Education. About our children: John has three years to go for a B.S. in a civil engineering cooperative course; Mary is commencing her last year in high school. Saw a number of other Alumni and Professor Schell last spring at an Alumni meeting." Chester Robinson is practicing law in Brewer, Maine. Additionally, Chester has a professional engineers certificate, but he says he never uses it.

Bill Schoolfield is chief of aerodynamics at Chance Vought Aircraft in Dallas. A note from him gives this credit to M.I.T. men: "Over the past 2½ years, a number of M.I.T. graduates contributed importantly to the design and development of the Navy Crusader F8U-1 airplane, world's fastest naval fighter and holder of national speed record: J. R. Clark, William C. Schoolfield, H. B. Gibbons, C. A. Lau, G. T. Upton, Albert Litchfield, James Madden, and possibly others. The men named are all from Course XVI."

Don Walden is in charge of the R.F. Bridge Section at the Testing Laboratory, General Radio Company, Cambridge. He is also greatly interested in floriculture and is now president of the New England Gladiolus Society with 2000 members all over the world. Married, with a boy and two girls, Don lives at 7 Arden Street, Needham, Mass.

Bob Strong, an account executive with Johnson and Higgins, 63 Wall Street, writes that he is always meeting Tech graduates in business and pleasure but never seems to run into the Class of '32. Bob, come back to the 25th Reunion. Giles Anderson is vice-president of sales, Union Starch and Refining Company, Columbus, Ind. He writes: "Nothing startling — son in college, daughter in preparatory school." Rather modest for a salesman!

Lem Amirian is an architect with the Public Works Department, San Francisco Naval Shipyard, living at 553 Patricia Lane, Palo Alto. Phil Bruce is an instructor in chemistry at Long Beach City College, Long Beach, Calif. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. WILLIAM H. BARKER, *Assistant Secretary*, 45 Meredith Drive, Cranston, R. I. ROLF ELIASSEN, *Assistant Secretary*, Room 1-138, M.I.T., Cambridge 39, Mass.

1933

Congratulations go to Dayt Clewell, VIII, for his recent promotion to the post of manager of the Socony-Mobil Laboratories, with headquarters in the new Socony building in midtown New York. It's a long jump because Dayt has been stationed in Dallas for several years where he has been director of research for Magnolia Petroleum, an affiliate of Socony-Mobil. Dayt has kept in touch with Cambridge through the Geology Department, so he is no stranger to the northeast. . . . Congratulations also to Ed Pierce, XIII, who has recently joined Dravo Corporation in Pittsburgh to supervise the design and installation of incinerators for municipal and industrial use. Ed spent several years in the Boston area as head of Combustors, Inc.

Also in the news for her public service in a series of activities is Mrs. Muriel Wilbur, VII. Muriel is chairman of the planning committee for the tenth anniversary of the Attleboro (Mass.) Council of Churches; she is also co-chairman of the residential division of the United Fund in the same city. . . . Our regular and most welcome Midwest correspondent, Cal Mohr, sends word of two classmates he met at the Master Brewers convention in Chicago this fall: Mal Mayer, IX-B, who is veep of Schwartz Laboratories in Mt. Vernon, N. Y., and Fred Wehmiller, II, who is president of the Barry-Wehmiller Company in St. Louis. As this is written, Cal expects to attend the Chemical Exposition in Cleveland, and the Institute of Chemical Engineers meeting here in Boston in December.

Speaking of December, your class officers join in wishing each of you most pleasant holidays. Again we beseech the

Class to send in some personal notes for this column. Has your son or daughter become engaged or married? How many of your young hopefuls are in college? Do you have a new assignment in your company, or have you retired? We've had informal word that one of our classmates has taken the latter step; we hope to have definitive word on this for the next issue and a commentary from him on how to achieve this status in one easy lesson. — GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, N. Y. R. M. KIMBALL, *Assistant Secretary*, Room 3-234, M.I.T., Cambridge, Mass.

1934

Last Alumni Day, those attending the events at Cambridge, including the first non-stop banquet, were Hank Backenstoss, Bob Becker, Joe Fishman, Irving Geltman, Arthur Grout, Irving Kusinitz, Theodore Pearlman, Ernie Massa, and Gerry Hudson, all with their wives. Also present were Bob Elliott, Leonard Shapiro, Mal Stevens, Roger Williams, Peter Kalustian, and Chuck Kearney. So you see the Class was well represented.

We are obliged to Don Severance for letting us know that Dan Strohmeier has been renominated by the Alumni Association as Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Naval Architecture and Marine Engineering. Visiting Committees are composed of nine members: three members of the M.I.T. Corporation, three non-M.I.T. members chosen by the President, and three M.I.T. Alumni Members recommended by the Alumni Association with the endorsement of the head of the department. Ordinarily, the committees meet once a year on a date convenient to the members, frequently at the end of the calendar year or early in June. The purpose of the Committee is to give the department the benefit of advice and opinions of an interested group other than those actually connected with the M.I.T. Faculty or Administration.

Our classmates have not yet given up going to school. Bill Allen writes that he is still with Westinghouse at Pittsburgh, and is currently taking the 13-week advanced management program at Harvard Business School. Bill Wood received a Ph.D. degree from the University of Arizona last May. Another recent Harvard Business School student was Turner Gilman, who there earned a Master's degree with high distinction. He has been in the Army since 1940 and has held numerous Signal Corps assignments in procurement administration. He holds the rank of Lieutenant Colonel and is currently assigned to still more school, this time to the Industrial College of the Armed Forces at Fort McNair, Washington, D. C.

Ed Rand has been honored by the American College of Life Underwriters by being designated as chartered life underwriter. Ed is associated with State Mutual Life Assurance Company. Jacob Jaeger continues to make news from his focal point as a vice-president and chief engineer of Pratt and Whitney Machine Tools of West Hartford, Conn. He has given talks on atomic energy to graduating electronics technicians and on automation in the metal working industry to the Meriden, Conn., Rotary Club.

Thanks again to Hank Backenstoss for the following note: "I saw Gordon (G. K.) Burns this summer when he was vacationing in Newfound Lake, N. H. He and his wife, Dot, and their children, Barbara, Janet, and Richard, manage to get East for their vacations even though Gordon is now located in Chicago. Since 1954, he has been with Teletype Corporation, a subsidiary of Western Electric Company. His job seems to be an interesting one. In its planning work, the company looks at immediate planning problems using equipment which is already in design or in process of design, at intermediate-range planning problems where necessary equipment has not yet been designed, and at long-range planning problems, where the field is unlimited. Gordon is responsible for the latter, which requires a good deal of basic thinking about the nature of our teletype network in the distant years to come. Gordon had news of Hoyt (Hoot) Steele, president of Benjamin Electric Manufacturing Company in Des Plaines, Ill. Hoot is exceedingly busy but is finding time to be interested in the problems of students, to the extent that he is operating a small scholarship plan of his own. We would be pleased to hear more of the details."

Dating back to last April, a news item from Birmingham gives the intelligence that Charles Gamble, Jr., is now vice-president in charge of operations for Alabama Gas Corporation, having formerly been vice-president in charge of engineering. He has been with this organization since 1943, and has a family numbering four sons.

We record sadly the death last July 3, of Paul W. Lawler of Marblehead. He had been employed as an engineer by Peterson Neville Company of Boston, and leaves his wife and a daughter, to whom the Class extends condolences. We appreciate having had Obie Denison'11 bring this news to our attention.

Two of our classmates were married during the summer months. Louis Frank, advertising tycoon based in Boston, was married to Frances Pearlstein, and Lester Tarnopol exchanged vows with Muriel Dubinsky in San Francisco. The Louis Franks now live in Newton, and the Tarnopols were to reside in Parkmerced, Calif.

Many thanks to each of the following classmates for sending in postcards reporting their latest news for use in this column. Sam Untermeyer is manager of General Electric's boiling water reactor project at their Atomic Power Laboratory near Pleasanton and Livermore, Calif. Bob Boden is still with Rocketdyne Division of North American Aviation as research specialist, and has bought a new home in Woodland Hills, Calif. Bob likes his situation and notes many at Rocketdyne from M.I.T. Bob Roulston is now in the Boston area with Trans-Sonics, Inc., of Burlington, Mass., as manager of their government contract department. The Roulstons have two boys. Charles Balleisen is engineering department manager with the Aeronautical Division of Robertshaw-Fulton Controls Company of Anaheim, Calif. Their first child was born last April, and their home is in Santa Ana.

A recent letter from Ken Lippitt tells of his move to join D. S. Kennedy and Company of Cohasset, which makes large dish antennas. Ken is living in Egypt, Mass., and says his three boys are hoping for a boat now that they live near the ocean. — WALTER MCKAY, *Secretary*, Room 33-213, M.I.T., Cambridge 39, Mass.

1938

Although little news lightens my task, it leaves me with a feeling of guilt for not being more active in soliciting information from individuals. In Pittsburgh, recently, I had the pleasure of spending some time with Dick Bartels and a few of his friends from Squibb. Dick continues to enjoy his work there, and has changed little from the Dick we knew at M.I.T. Also at this meeting of the American Institute of Chemical Engineers, was Paul DesJardins, who is a regular attendant at such meetings.

We receive cards frequently from Bert Grosselfinger. He seems to make a habit of visiting such cities as Cairo, Beirut, and Naples. Also abroad is Doug Esperson, whose address we note has been changed from Syracuse, N. Y., to Perret Seine, France. On the move is Major John Hilcken; from Rochester to an assignment with the Surgeon General's Office in Washington.

A news release tells us of the appointment of Jack Rosenberg as manager of automation, Electronic Control Systems, Inc. Electronic Control Systems, Inc., is an affiliate of Stromberg-Carlson, and a subsidiary of General Dynamics Corporation. "In this position, he will be responsible for the design, development, and prototype construction of high-speed special purpose digital computers and controls for machine tools.

"During World War II he became a lieutenant in the U. S. Army Signal Corps, and supervised inspection of radar equipment. Following the war he joined the Physics Department of Princeton University, where he had charge of development and construction of all instrumentation for a medium-sized synchro-cyclotron.

"In 1947, he joined the Electronic Computer Project at the Institute for Advanced Study, Princeton, N. J., as a design engineer. He was one of the small group which, under the supervision of Professor John von Neuman, developed the unique high-speed digital computer which served as the prototype for the many *Maniac* computers that have subsequently been built. Jack was responsible for the mechanical and electrical design, development and operation of the arithmetic unit, which constitutes over 50 per cent of the electronic portion of the computer. In addition, he also supervised setting up test criteria, test procedures and maintenances of statistical records on these components. He also participated in the design of the Williams electrostatic memory system, and designed low-noise, high-gain video amplifiers which are a critical part of the system.

"In 1951 he went to the Electronics Laboratory of the General Electric Company, in Syracuse, N. Y., where he was

engaged in the design of specialized military electronic equipment. He remained in that position until joining Electronic Control Systems, Inc., in 1954."

In the news is Aram Kerkian, who has left his position as head of the clinical laboratories of Akron, Ohio, City Hospital to return to Newburyport, Mass., to be associated in business with his brother Roy. Aram Kerkian did graduate work at Tech and at Columbia University. He went to Akron City Hospital atfer four years' service in the Navy in charge of medical laboratories. At the hospital, Kerkian was instrumental, over a period of six years, in setting up the clinical laboratories there. Some years ago he was chemist at the Newburyport clam chlorination plant at Plum Island, and afterward, was with the State Department of Public Health. — DAVID E. ACKER, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

1940

The news this month is brief. The highlight is that Beano has been touring Europe this summer, and probably has been challenging the champion professional wrestlers in each country he went through.

Oliver Fulton, Jr., is now director of product planning for the Underwood Corporation, the New York Business Machine Company. Ernest Barron, who received his doctorate with us, recently was written up in the Boston *Post* in view of his outstanding work as a food technologist. Of interest to the married members of the Class, he does all the shopping for food, as well as most of the cooking. He believes this is a task that other men can do satisfactorily even if they are not expert food technologists. Comments on this theory will be appreciated.

From Dick Cobean of Timberlane, Rural Route 2, Morrison, Ill., comes word that since March 19, he has been with the General Electric Company, Appliance Control Department, of Morrison, Ill., as a project development engineer in the Advanced Engineering Section. After living in large towns for a long time, Dick states he finds it enjoyable to live in a small town (population 4,000) for a change. In addition to Dick and his wife, Helen, his family now includes two daughters, Nancy Jean, six, Susan Grace, five, and a son, Dick, Jr., two. — ALVIN GUTTAG, *Secretary*, Cushman, Darby and Cushman, American Security Building, Washington 5, D. C. SAMUEL A. GOLDBLITH, *Assistant Secretary*, Room 16-319, M.I.T., Cambridge 39, Mass. MARSHALL D. MCCUEN, *Assistant Secretary*, 4968 West 14th Street, Indianapolis, Ind.

1941

A note from Marge Stewart brings us the unpleasant news that Carl was taken ill with spinal polio on September 10. At the time she wrote, he was still in an iron lung, but was starting physio-therapy, and was in good spirits. We all hope that by the time this is printed, Carl will be well on the way to recovery. In any event, a card or letter would help to cheer him up: address C. M. Stewart, 1498 Letchworth Road, Camp Hill, Pa.

Connie Nelson, now a lieutenant colonel, writes, "I have been reassigned from HQ, U.S.A.F., to the 314th Air Division in the Far East. En route, I completed fighter combat crew training in the F-84G Thunderjet." And from George Palmer, covering the Cleveland area for the American Bureau of Shipping, ". . . surveying ships, engines, materials and equipment for same. Have free piston type gas turbine propulsion unit under inspection at present, plus usual repairs, etc. Waiting to see what St. Lawrence Seaway produces."

The Hamilton Standard Division of United Aircraft Corporation, in Windsor Locks, Conn., has announced the appointment of John Meier as chief materials engineer. John joined the company in 1946, and became senior project engineer before leaving in 1954. He returned to take his new position. John is a member of the Suffield Board of Education, and was recently appointed superintendent of the Sunday School of the Second Baptist Church. The Meiers have a boy and a girl. Best of luck in your new assignment, John.

Howard McMahon has been elected vice-president of Arthur D. Little, Inc. His previous work with the company has ranged from low temperature physics and chemistry to basic investigations of high temperature thermal radiation phenomena in glass. . . . Austin Fisher, also a graduate student with the Class of 1941, has been named director of Arthur D. Little's New England regional office, which, like its five predecessors in other parts of the country, was opened to provide closer liaison with, and better service to, New England industries. Dr. Fisher has previously directed work in development and design of chemical processes, having been with the firm for the past 10 years. Our best wishes for success to both of you in your new positions. And, just to show how ubiquitous the men of A.D.L. are, we met Reid and Barbara Weedon and their four children in the Museum of Science in Boston a few weeks ago. This museum, incidentally, is a point of real interest, and I recommend it highly to any of you who may have a chance to visit Boston (or who live here, for that matter).

Lew Jester, of the General Electric Boston sales office, is serving as chairman of the Boston section of the A.I.E.E. this year. And so we close another year. A very Merry Christmas to all of you, and for a New Year's resolution that's easy to keep, how about a letter to one of the Secretaries? — IVOR W. COLLINS, *Secretary*, 28 Sherman Road, Wakefield, Mass. HENRY AVERY, *Assistant Secretary*, Pittsburgh Coke and Chemical Company, Grant Building, Pittsburgh 19, Pa.

1942

By the time these notes reach you, every one of the 1,094 members of our Class of known address should have received a special mailing of the details of our forthcoming Reunion. In the rare event that your copy may have gone astray, please send me a postcard at the address below so we can be sure to send you all the information. It is particularly pleasant to report not only the enthusiastic response, but also the many nice notes that accompanied the checks for Class dues. If the returns of the first few days from 80 men are a statistically sound indication, we should both have an ample treasury with which to conduct the planning activities, and should also certainly see the gathering of over 200 men and women that we are providing for.

The very first respondent to the reunion announcement last summer was Ed Yoder. He writes: "My wife, Barbara, and I are planning to come to our 15th Reunion next summer. . . . It was just a week ago today that we were in Houston and spent some time with Bob McBride and his wife, Katy Lou. Perhaps you know that he is in Houston working with Brown and Root, who are engineering and building a new chemical plant for an organization in Ravenna, Italy. Bob is still working for Carbide and Carbon Chemicals Company, who are furnishing the design know-how for the plant.

"Ben Skinner, his wife and five kids dropped 'out of the blue' about three weeks ago for a short visit. They were returning from a vacation in Mexico to their home in Dunedin, Fla. Ben is in fine health and he is in a parts production business with his father.

"I am still with Carbide and Carbon Chemicals Company here in our Texas City plant. I have charge (department head) of an acetylene reaction department, where we produce acetylene by partial oxidation of methane. I certainly would welcome seeing anybody who might be down here on the upper Texas Gulf Coast. We will look forward to seeing you next summer." Our thanks, Ed, for lots of interesting news and your very hospitable invitation.

We are just catching up with the activities of last June's Alumni Day and the 1942-1945 cooperative local weekend festivities. Jim Hoey, Jr.,'43, did a superb job of organizing and running a cocktail party and dinner on Saturday night, as well as a clambake at Castle Hill on Sunday. Among those who were on hand for one or both events were: Munroe Brown, Carl Zeitz, Marsh and Mary McGuire, Alfred and Shirley Goldis, Stanley and Thelma Golembe, Martin and Irma Levene, Felix De Leo, Bill and Barbara Denhard, Paul and Mildred Hotte, Bill and Sammy Maxwell, Bill and Ann Rote, John and Barbara Lacy, and your secretary. Present at Alumni Day activities, in addition to most of those listed above, were: William H. Dennen, Mrs. Frances R. Karlan, Warren S. Loud, Robert C. Seamans, John C. Simons, Jr., Jack Sheetz, Maynard S. Renner, and Messrs. Collins, Hellige, and Quinn, as noted last month.

A recent announcement by the Franklin Technical Institute of Boston tells of the appointment of Harry J. Heineman, Jr., to the Mathematics Department staff. Harry did graduate work at Columbia and the Sorbonne, and later was with the Standard Oil Development Company in New Jersey. Also in the newspapers is an account of the marriage of the former Lois Bannerman to John L. Senior, Jr. Mrs. Senior is a well-known harpist who, at the age of 16, was invited to play at a

White House musicale. She is the youngest artist to be so honored. John is presently engaged in experimental agriculture in Ridgebury, Conn. He is a director of the Portland Cement Corporation, the Consolidated Cement Corporation, and the New Canaan Fuel and Lumber Company, and he is a trustee of the Museum of Modern Art.

A note from William E. Kline reports that he has moved from Connecticut to Towson, Md., where he is now supervisor of testing for the Board of Education of Baltimore County. Deane Lent is now an assistant professor in the Mechanical Engineering Department at Tech. Francis M. Staszesky of the Boston Edison Company, and a past president of the Boston section of the A.S.M.E., has recently been elected secretary of the Engineering Societies of New England. At a recent Reunion Committee meeting, Frank spun some hair-raising tales of what the recent hurricanes looked like from the vantage point of the man who had to put Metropolitan Boston's power system back into operation. We mere householders sat in awe.

Along with the class dues collection we received offers of help in committee work and indications of plans to come from Bert Clear, Pete Hellige, Jack Quinn, Dick Meyer, Graham Bell, Chuck Magdsick, William Roemmich, and many more. Many thanks — we will be writing to you all soon and looking for you in June.

California has collected five more Class of '42 men from the East Coast: Bob Bloom from New York; Jim Klein from Boston; Captain James S. Shilson (to the U.S.S. *Bryce Canyon*) from Charlestown, S.C.; Captain Bernard A. Smith from Arlington, Va.; and Stephen E. Stephanou from Lewiston, N.Y. The reverse cross-country trip has been made by Captain Harry C. Maynard, who has reported to the U.S.N. Underweater Ordnance Station in Newport, R.I., from Keyport, Wash. Also involved in a long, long-distance move is Professor Pei-Moo Ku, who left Maryland for San Antonio. William F. Keyes, Jr., is now in Arlington, Va.; Captain William W. Brown is in Annapolis; Colonel Richard C. Gibson is at Holloman Air Force Base, N.M.; William H. Haggard, 2nd, in the Capitol; Frederick S. Hodgdon in Garden City, N.Y.; Alan Katzenstein has left the tall buildings of lower Manhattan for the suburbs of New Rochelle. Dr. Robert T. Olsen is now with the Standard Register Company in Dayton, Ohio. Al Root has moved to Whitehall, Mich.; Leon E. Rubin to Canton, Mass.; Herbert W. Stevens to City Hall, Cincinnati, Ohio; Bob Howard to Kansas City, Mo.; Donald L. Kidd to Wichita; Major Frederick M. King to Chicago; and Dr. Kazim Ergin from Ankara, Turkey, to Istanbul, where he is with the Teknik Universite Maden Fakiiltesi. Our Class certainly lands in scattered and interesting places.

It's hard to believe, on this warm and colorful early New England fall day, that by the time this reaches you the year will be almost out. Best wishes for a very Merry Christmas and a happy, prosperous and peaceful New Year. — Lou Rosenblum, *Secretary*, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

1943

Ed McClaud, who moved from Wilson, N.C., to West Hartford, Conn., last spring, has been appointed chief engineer at the Parker Stamp Works, Inc. He will be in charge of product, process and tool engineering. The company specializes in the manufacture of marking dyes, special tooling and marking machines and also dimensional cams. Joe M. Smith, who received his Doctor's degree with our Class, has been appointed Dean of the College of Technology at the University of New Hampshire.

John H. Spencer of Rochester, N.Y., has been appointed chairman of the Red Cross blood program for that city. John is manager of the laboratory of the Meter Department at General Electric Company's plant in Somersworth, N.Y. Margaret Murray Blizard received the backing of the Democratic Town Committees of most of Norfolk County in Massachusetts for the nomination for State Senator.

The following letter from Bill Verrochi of Levittown, Pa., was most welcome: "We've been transferred to the home office of Allstates Design and Development Company, Inc., arriving June 11, 1956. We expect to be here a year or so for 'executive training' after which we might move to one of the divisional offices (Boston, Albany, Cincinnati, Chicago, Kansas City, or Milwaukee), or we might be kept at Trenton. The outfit is 11 years old, is an engineering service organization, primarily in the mechanical field, and is presently at 1000-man strength, having doubled its size in less than a year. You can appreciate the organizational difficulties we're going through — a new organization chart about every month. But the management appears capable, open-minded, aggressive, and sincere. Until recently, the operation was strictly 'job shop' at which we are the acknowledged Cadillac of the field. During the past year, the company has been picking up young, experienced engineers in an attempt to expand slowly into the true architect-engineering field. But our bread and butter is, and will always be, design and drafting services. For example, I'm presently project manager of the Du Pont projects. We have 200 men in the design and drafting categories on this work.

"Beth Ann will be two in December. Suzanne was born April 8 this year, as you know. They and Gloria are all well — and more beautiful each day. We sold our house in Norwood and have rented a house here in Levittown. There's one million kids in the neighborhood but it's quite nice and really the best deal around. We have four bedrooms and two baths and sincerely would like to have classmates visit us whenever they are close to New Jersey, New York, or Pennsylvania.

"Steve Brodie spent an overnight visit with us recently. He's joined Bill Pease's outfit — Feed-back Controls, I believe the name is. Steve has been primarily in sales and has evidently been covering the East Coast. Glo and I spent a day with them at their 150-year-old authentic colonial house in Scituate this summer. He sure has a fine home and grounds. Also family.

"Oh, yes, just got my Massachusetts professional engineer license and will start a refresher course next week for the New Jersey exams in December. Sorry I missed the reunion; Jim Hoey probably saw you and explained we had to move on short notice to New Jersey."

Charlie Hathaway, chief engineer of Torrington Manufacturing Company in Connecticut, is the author of an article entitled, "How to Select Air Impellers for Optimum Performance," which appears in the October issue of *Machine Design*. James G. Houser, of the engineering division of the Martin Company of Baltimore, was selected for a year's graduate study at M.I.T. by the Sloan Fellowship Foundation. — Richard M. Feingold, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

1945

Alumni Council representative Bill McKay's letter of mid-September indicates that we failed to report that Al Oxenham, Bob Maglathlin, and Don Whitehead also attended last June's Alumni festivities on campus. Our humble apologies! Bill had the following items to add. Waite Stephenson was married to Mary Louise Jacoway on August 11 in Copenhagen, Denmark. As many of you probably remember, Steve has been in Europe since 1953 after his last tour with Uncle's Submariners. The last time I saw him was in early 1953 at the Officer's Club in Portsmouth, N.H. Red Harrington, who has been in the Midwest as well as Manchester, Conn., with Shell Oil these many years, is back in Boston to roost.

Recent births: James Andrew Marocchi in Pittsburgh on July 21, 1956 — second child and second son to Andy Marocchi; Kim Ann Ruehrmund in White Plains, N.Y., on August 28, 1956—first child of Trudy and Max Ruehrmund; also David L. Clare, Jr., in Westfield, N.J., on September 8 — third child, first son.

Charlie Patterson, after three years in the Philadelphia sales office as a field engineer, has returned home to Attleboro as assistant product manager, Spencer Thermostat Division, Metals and Controls Corporation. Richard B. English was recently appointed branch manager of New Orleans York Corporation, Commercial Division, a Borg Warner subsidiary. At a recent American Chemical Society convention in Atlantic City, Prexy Dave Trageser ran into a couple of classmates. Firstly, Gordon Smith, whom you will recall was a Lehigh transfer who graduated with us. After Middie's School at Fort Schyler and a brief tour, he did graduate work at Lehigh and Illinois, getting his doctorate in organic chemistry at Illinois. Smitty, who had the dubious honor of Navy recall, is now with DuPont at their Experimental Station near Wilmington, Del. He has seen Bill Pockman on occasion; Bill is in the Sales Department of DuPont, somewhere in Alabama. Also with DuPont is "Slim" Pasfield, who is also a doctor, having obtained his degree in physical chemistry at the University of Connecticut. The Pasfields have three children; Slim reports that he recently encountered Stan Brown in Cleveland, whom we presume is still selling for New

Britain Machine Company. On his way back from Atlantic City, Dave telephoned Lois Thorkilsen, but Hal wasn't home — still at Colgate's Jersey City plant.

From a recent address change, we note that Julian "Jumper" Gammon is with the Chemical Plants Division of Blaw-Knox in Pittsburgh, while Les McCracken has left Washington and government service for the greener pastures of Bethlehem, Pa. On September 13, Freida Sapienza became the bride of William T. Lang. Bill and Freida are making their home in Boston, as Bill is a structural engineer with Cleverdon, Varney, and Pike of Boston. I ran into Reggie Stoops here in Stamford last week; no particular news on his employment, etc., but we shall report later.

That's it; have a Happy Holiday and we shall see you next year. — C. H. SPRINGER, *Secretary*, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y.

1946

This deathless prose is being written about a month before the column written for the previous issue actually arrives on the doorstep, so I have no way of knowing whether my impassioned plea for up-to-date information from each and every member of the Class will bear any fruit. On the assumption that some have already responded, thank you very much. Look for your news to be published a couple of months from now. Those who put off the chore, and then forgot it — please sit right down now and drop me a line. Your old roomy, Joe, will be interested in your latest doings, and having recent evidence that you are still alive, he might even drop you a line.

Through the good offices of The Revew I have received a couple of news clippings. The first concerns E. H. Cumpston, Jr. Ed was formerly the director of research and has recently been named the director of engineering and research for the E. D. Jones and Sons Company. Ed joined that Pittsfield, Mass., paper machinery manufacturing firm in 1950, having formerly worked for the Union Machine Company in Fitchburg. A clipping from the *Aeronautical Engineering Review* tells us that Lieutenant Commander Robert Shackford, who is now stationed at North Island Naval Air Base, has recently given a talk at San Diego State College on the subject of high speed aircraft problems, entitled "The Effects of Compressibility." We have just received news that Luis H. Mendoza, who lived in Rio Piedras, Puerto Rico, died on July 10, 1956. Luis was a graduate student associated with the Class of 1946.

From Herb Hansell, I have received last year's questionnaires. Until your letters start rolling in, and on the assumption that last year's news is better than no news, I'll start in on them. Dave Hoag has bought a house and settled down in his old home town of Medway, Mass. Dave was appointed assistant director of the M.I.T. Instrumentation Lab in the spring of 1955. His work is chiefly concerned with Navy anti-aircraft missile and gun fire control systems. Dave was married in 1952 and the Hoags now are four — Rebecca arriving in 1953 and Peter in 1955. In 1955, Ford Park also had two children. Anne was four years old and Brian just one week old when the form was sent in. Ford was an assistant professor of mechanical engineering at the University of Buffalo for five years before changing to his current employment at the Linde Air Products Company in Tonawanda, N.Y., where he is a section engineer in charge of the design of liquid oxygen transport and pumping equipment.

Daniel M. Kelley was recalled to Navy duty in 1952 and spent two years as Executive Officer of a Navy transport. After this rugged duty, he returned to New York and joined the staff of *Architectural Record*, a monthly professional magazine, as engineering editor. Monroe and Richard Gliedman wrote a complete history on their questionnaire. After M.I.T., they both were assigned to the Harvard Supply Corps school. They split up temporarily, Monroe joining a Sea Plane Tender in the Atlantic, and Richard an AKA in the Pacific. After a year's sea duty, they both left the Navy and returned to college. Then four years at Columbia for a D.D.S., and then two years of post-graduate work for their specialty of orthodontics. Since then, they have been associated in their practice in New York and New Rochelle, and they also are both teaching orthodontics at Columbia.

Charles A. Thompson was recalled to Navy duty and, when released, went to work as a salesman for International Business Machines in Dearborn, Mich. Calvin M. Newman took an A.B. degree at Stanford, and an M.B.A. degree at Chicago after leaving Tech. He then became an instructor in marketing at the University of Omaha before taking his present job of assistant secretary-treasurer, and director of operations for the American Community Stores Corporation in Omaha. As of last year, he had two children, Peter, aged 22 months, and Thomas, aged four months. Carl P. Jensen is one of our many classmates who switched to law after leaving Tech. After receiving his LL.B., Carl went to work for the law firm of Lenihan and Ivers in Seattle, Wash. He is still with the same firm, having taken two years out for duty aboard the *U.S.S. Prairie*, AD-15, as chief engineer. Carl and his wife, Catherine, have two children, Paul and Linda. William E. Becker was also recalled for two years of Navy duty. He now is with the Bacon Felt Company of Taunton, Mass., working as a product development and research engineer. Bill was married in 1947 and has two daughters.

Richard G. Steuer received his M.S. from Stevens Institute of Technology in 1952, and his New York State P.E. in 1953. After working for the Curtiss-Wright Propeller Division, he joined the Sperry Gyroscope Company in New York as an engineer in the development of aircraft flight controls. He was married in 1948, and also has two children. (Two appears to be a popular number.) Warren Turner has been with the New Jersey Bell Telephone Company since 1947, with two years out for recall Navy duty. His job now is traffic superintendent, supervising long distance, dial, and information exchanges in the Morristown, N.J., area. Warren and his wife, Lucille, have two daughters, Pamela and Cynthia. Thomas Habecker received his LL.B. after many long evenings at night school, and then passed the Iowa bar in 1955. As for gainful employment, he worked two years as an electronic engineer, five years as a patent examiner in the U.S. Patent Office, and now is a patent attorney for the Collins Radio Company in Cedar Rapids, Iowa. He's looking for private patent clients to keep him busy evenings so that he can feed his two girls and two boys.

That's all for this issue. I have more old questionnaires to use next month if your letters haven't started to roll in yet. Merry Christmas. See you in January. — JOHN A. MAYNARD, *Secretary*, 15 Cabot Street, Winchester, Mass.

1948

The mail during the past month brought us the good news of three marriages within the Class of '48. Ed Jamgochian was wed to Louise Arakelian; Ed Hobaica, who is now employed as a chemical engineer in Watertown, Mass., was married to Miss Marion Febo; and Carl Accardo, now an employee of the Evans Signal Laboratory of Belmar, N.J., became the husband of Miss Edna Ertle. Carl is also continuing his work toward the doctorate in physics at New York University.

We also received word that Jerome Keuper, who has been a research physicist for the Remington Arms Company, has been appointed head of the Mathematics Department of the Bridgeport Engineering Institute in Bridgeport, Conn. After being graduated from Tech in 1948, Jerome went on to receive his Master's degree in physics from Stanford University and his Doctorate from the University of Virginia. Another recent educational appointment was that of Major Norman E. Pherson, who was recently assigned as instructor in the Department of Military Arts and Engineering at the United States Military Academy at West Point.

From Bob Dean we received word that he is now the head of the Advanced Engineering Department of Ingersoll-Rand Company at Phillipsburg, N.J. Bob left the Mechanical Engineering Department of M.I.T. in July to accept this new post. He has one child, Elizabeth Stuart, born March 30, 1956. Earl Hoyt has transferred to Cleveland from Glen Ridge, N.J. He has been promoted to the position of regional manager for the Lamson Corporation. Earl is the father of two boys and, at this writing, is about to become a papa again.

S. M. Siegal has been an assistant professor of biology at Rochester for the past year, and is now engaged in research on polymerization of biologically important compounds on chemically defined surfaces; a project which is supported by the United States Public Health Service. One year from now he will leave on a Guggenheim Fellowship Award for study in Europe at the Universities of Bergen, Heidelberg, and Glasgow. From Walter

Lowrie we learn that he has been transferred to the new Denver division of the Glenn L. Martin Company. He is the principal engineer in charge of flight mechanics for this division.

Charles Anderson, who is now a major in the U.S. Air Force, returned in August from a three-year overseas assignment with the First Weather Wing in Tokyo, Japan. He is now assigned to the U.S.A.F. Weather Central at Suitland, Md., a suburb of Washington, D.C. Keep writing; we hope to be with you again next month. — WILLIAM R. ZIMMERMAN, *Secretary*, Moraine Paper Company, West Carrollton, Ohio, RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Mass.

1951

Marriage news this time brings with it news of other doings of classmates. On June 16, Kendall Peterson was married to Barbara Ann O'Connor of Washington, D.C. From this event we learned that Ken has served two years as a weather officer in the Air Force, earned his M.S. from the University of Chicago, and is now with the Hydrometeorological Section of the U. S. Weather Bureau in Washington. Last May, Robert Walquist was joined in marriage with Ann Whittier of Marblehead, Mass., and now resides in Los Angeles. Clint Seeley exchanged vows with Gail Robyn in Rochester, N.Y., on September 8. Clint earlier received his M.D. from the University of Rochester. Gil Stevens took for his bride Helen Barkett of Miami, Fla., last June in Washington, D.C. Gil is stationed at the Army Chemical Center in Edgewood, Md., and living in Abingdon, Md.

Art Wasserman was married on June 24 to Sheila Wharton of Brookline, Mass. Art is working on his doctorate at M.I.T. in nuclear engineering. He and Sheila reside now in Brookline. Mert Flemings was joined in marriage with Elizabeth Goodridge on September 8 in Worcester, Mass., hometown of each. They are now residing in Arlington, Mass., while Mert serves as assistant professor in the M.I.T. Metallurgy Department. He returned to the Institute last spring after working extensively on aluminum castings with the American Brake Shoe Company.

Adolph Hendrikson writes he "recently left Remington Rand and New York City to rejoin former associates who have formed a new company called General Kinetics Inc., in Arlington, Va. The company is engaged in scientific research directed toward computer development and usage." Adolph is engaged in digital computer programming research. Vern Pfanku is now doing project engineering at the Fiberglas plant in Barrington, N.J. Carl Liswith has joined International Business Machines in New York City as a member of the staff of the director of laboratory operations. He earlier served as an assistant to the executive vice-president of a Southern steel mill. Ernest Sanlorenzo is now with the Nuclear Development Corporation of America in White Plains, N.Y. John Stewart is working for the Reading Tube Corporation in Reading, Pa. William Weisert is a commander in the Navy, now stationed at the San Francisco Naval Shipyard. Herb Yamane is attending the University of Pennsylvania. William Gibson, a lieutenant commander in the Navy, is now stationed in Norfolk, Va. Patrick Griffin now gets his mail through the Arabian American Oil Company in Dhahra, Saudi Arabia.

Howie Levingston is back at Tech to get his Master's in metallurgy. Bob Pfaff has joined International Business Machines in Poughkeepsie. Bill Gilbert earned his Ph.D. from the University of Minnesota last June, and is now with the research staff of the Nuclear Research Laboratories at Oak Ridge, Tenn. Robert S. Bryan has been planning engineer with the Town Plan and Zoning Commission in Fairfield, Conn., since 1951. He has also served on a special committee to survey replanning problems in areas hit by floods in 1955. Wallace Lebowitz was awarded his M.D. *cum laude* last June by Boston University. His internship is in internal medicine at Boston City Hospital. Arnold Rothstein recently joined the faculty of Xavier University in the business administration graduate program. He is also a management analyst in the aircraft nuclear propulsion department at General Electric in Cincinnati.

Bert Schweizer, who last June received his doctorate from Illinois Institute of Technology, was recently appointed an instructor at that institution. Russell Casella received his Doctor's in physics last July from the University of Illinois, and is now on the staff there. Jim McKenna was recently discharged from the service after serving for four years. He had studied earlier at the University of Edinburgh, Scotland, as a Fulbright scholar, and is now studying at Princeton University. Eva T. Browder is now teaching mathematics at the Hillhouse High School in New Haven, Conn. Max Ulrich has been named executive secretary for the committee on atomic power of the Edison Electric Institute. Max, who has specialized in atomic matters for the Edison Institute, will be a central figure in promoting atomic power reactors for the nation's electric utilities. Murray Gell-Mann was appointed last July as a full professor of physics at California Technology. At 26, he is that institute's youngest full professor.

With new class officers now, it seems appropriate that their most recent doings be reported here. Stan Marcewicz, our class president, is now found in Rochester, Minn., where International Business Machines has sent him to head up an industrial engineering group that will supervise the business and engineering details of organizing a new I.B.M. plant there. He writes that they have already started shipping out machines and that he got another promotion last August. Dick Willard, secretary-treasurer, is working half-time in the M.I.T. Admissions Office on various statistical problems relative to college admissions, and at the same time he is completing work on his doctorate at the Harvard Graduate School of Education in educational statistics. Last June 23, Dick was married to Gail Rennie of Weston, Mass., and they are now commuters living in Harvard, Mass., but using a Littleton mailing address. Bob Gooch, assistant secretary-treasurer, has been with Freese and Nichols in Fort Worth, Texas, since receiving his Master's in hydraulic engineering last year. His principal duties have been to study the future water needs of Fort Worth as far as the year 2000, and to recommend sources of supply to meet the demand. Over 15 potential dam sites have been studied by his group. Bob has been a married man since 1953 and is the proud dad of two sons. — RICHARD W. WILLARD, *Secretary*, Box 105, Littleton, Mass. ROBERT S. GOOCH, *Assistant Secretary*, Freese and Nichols, 407-410 Danciger Building, Fort Worth 2, Texas.

1952

Hi. By the time you find time to read this column, Christmas and New Year's Eve will probably be things of the past. I should therefore like to take this opportunity to wish you all the best of season's greetings on behalf of myself, Bob Briber, Stan Sydney, Hal Lawrence, and Nick Melissas, our reunion chairman. Reunion plans are definitely perking along, with the Melissas dragnet getting more and more people working on making a real "winner" out of the weekend. Latest to join the happy reunion committee were John Ward, Bob King, Erwin Schowengerdt, and John Fitch (McClellan to his W.H.D.H. listeners).

I just learned this evening that Stan Sydney is deserting the ranks of the Bachelors Unanimous. He, it is sad to tell, has just gotten himself engaged to a little lovely named Sheila. I'm afraid he took Bob Briber's glowing words on the glories just a little too seriously.

And now the lazy man's way out; excerpts from the mailbag. Hal Larson writes: "I'm as busy as all get-out, but I'm happy doing what I'm doing. I took an internship in Prosthetics and Surgery here at Hines V. A. Hospital. I heard from Don Lew a short time ago. He didn't say what he was doing, but he's apparently still living in Yonkers." Hal, it should be added, received his D.D.S. from Loyola Dental School in Chicago this past June.

Ben Shaver writes from Johns Hopkins Hospital in Baltimore: "I got my M.D. from Yale in June and am here at Johns Hopkins doing my internship in Pediatrics. Techmen seem to get around these parts a good bit. It is not uncommon for someone to see the beaver ring and then start to play 'did you know — ?' I'm thoroughly enjoying the brand of medicine here."

Lee and Mike Green write: "We just had our second offspring on March 21 — an 8½ pound boy. We named him Frank. Our daughter Frances will be three this June. I played bridge at the M.I.T. Club here in New York with Ed Margulies, Marty Cornish, Sandy Sussman and Steve Eisen. As you must know, Ed has left for Albany to intern there. Someone mentioned that Gino Scalamandre is in Europe for a few months, with his wife. Ken Fawcett called last week. He and his wife, Audrey, have two boys. Ken is working for Melpar, Inc., in Arlington, Virginia. After working in El Paso, Chihuahua, and Philadelphia, I have returned to New York where I am working for Brandeis, Goldschmidt and Company, Inc., in New York City. Lee and I have our own little house in New Rochelle."

Ed Selig write from nearby Mamaroneck, N. Y.: "About two weeks ago (in April 1956, that is), I took the fatal step and got married. Her name was Kathleen Cusick, a little Scottish lassie. Ever since I left the Air Force in July 1952, I have been working for local small manufacturing concerns. First I went with a company as a cost accountant. After I arrived, they finally realized how poorly they were doing and went out of business. I am now working for Adler Electronics, Inc., in New Rochelle, doing estimating on government contracts. The company is mainly a manufacturer of TV broadcasting equipment and electronics of various types. We see Mike Green and his family, and Herb Wilf and his occasionally. (Herb's kids are named Susan, age three, and David, age six weeks.)

The Dunn news letter indicates that the Dunns — Bill and Emily — both graduated from Stanford in March, 1956; Bill with his M.B.A. from the Stanford Business School. Bill is now working for the Spencer Chemical Company as a market research analyst in industrial chemicals and plastics. Bill has become quite a traveling man. Oh, yes; all of this activity is centered in Shawnee, Kansas. Apparently Billy (Junior) is managing to get into as much trouble as his father always did; he managed to get a "whopping dog-bite on his face after hugging a collie too hard." Howie Fawcett got himself hitched last June to Audrey Jane Terry in Warwick, Va. At last word, Howie was practicing very hard to lead the nonchalant, debonair life of a Virginia gentleman.

Enough for this month. If I write too much, there won't be anything left for next month. If any of you get to the Boston or Worcester area, please look me up. I'm now working for the Bay State Abrasive Products Company in Westboro, Mass. Between trips to Wellesley College, I put in a few hours a day doing computer systems and operations research work (a somewhat shameful end for a Course XV-B man.) — STANLEY I. BUCHIN, *Secretary*, 31 Oakdale Avenue, Wellesley 93, Mass.

1953

Just before leaving Cambridge last June, I received a call from Dick Neller. He had finished his two years as a lieutenant in the Air Force and was starting work once again at the Quincy plant of Procter and Gamble. Most of Dick's two years in the Air Force were spent in Japan. Unlike many lucky individuals who were stationed around or near Tokyo, Dick spent his time on the northern part of Hokkaido, looking across a rather bleak stretch of water to the Russian occupied island of Sakhalin. We sat and talked for about two hours on such subjects as his manner of filling in the gaps in his education in the fields of marketing, finance, and corporate organization. Also talked about the Japanese women — Dick is not married yet. He told me that Chad Gibbons was married and living in Sulphur City, La. We ended our talk with the ethics of business advertising and the gimmicks that are used to attract and sell the consumer.

Yesterday, a letter from George Fuld announced a "new issue from the G. Fuld mint." Date of issue; September 18, 1956. Place of issue; Boston, Mass. Weight; 6 pounds, 13 ounces. Designers; George and Phyllis Fuld. On exhibit; 120 Babcock Street, Brookline, Mass. George has been instructing at Tech since graduation and has just received his Sc.D. degree in biochemical engineering. He plans to stay at Tech and continue his teaching.

On October 27, I am going to attend the wedding of a fellow with whom I spent three years at Ripon, two years at Tech, and about a year and a half in Korea. Doug Meyer is marrying Nancy Jane Bunker of New Canaan, Conn. I do not know a great deal about Nancy but I'll fill you in on the details in the next issue.

George Fuld had a few other notes on his card. Al Hoffman and John Ehrenfeld are still "at the old Fort." See you next month. — VINSON W. BRONSON, JR., *Secretary*, 18 Mellen Street, Cambridge, Mass.

1955

I suppose that I should begin this column by wishing you all a Merry Christmas and a Happy New Year, although it sure seems out of context with the beautiful Indian summer we are having in Boston this October. We really must apologize for the antiquity of some of our news, but due to this and long grape-vines, you can imagine how the system can have a time-lag.

At the end of the summer, I received a fine letter from Ed Ehrlich. After graduation he began work with the Gleason Works in Rochester, N. Y., where he went through a training program which led to his eventual assignment to their Time Standards Department as an industrial engineer. Last April, Ed became engaged to Janet Elizabeth Lawrence of Rochester, N. Y., who is a graduate R.N. of the Johns Hopkins Hospital School of Nursing in Baltimore. At the time of this writing, Ed was stationed at the Aberdeen Proving Ground serving out six months time with Uncle Sam. He says that you fellows who were not R.O.T.C. should look into the scientific and professional part of the Reserve Forces Act and get in on the six month deal. Thanks a lot, Ed, for the nice letter. I hope it may inspire others.

Another man who is in for six months is Marc Gross. Marc, who had been working for the Patent Office in Washington, and attending Georgetown Law School in the evenings, finally decided to take a six-month vacation from the grind and get his military duty out of the way at the same time. He writes from Camp Gordon that even though he feels like a father to the 17 and 18 year olds that make up the bulk of the group, and even though he is tired of taking truck driver aptitude tests, and even though his fingers are being worn thin by writing letters home for the illiterates, he is having quite an interesting experience, and is pretty anxious to finish basic training and get an assignment in his field. After the service, Marc plans to resume his studies. He sounds really enthusiastic about Patent Law, and says that the field has tremendous possibilities for engineers.

Talking about servicemen, Dave Rados was in town for a weekend and brought us up to date on what's new with the gang at Wright-Patterson. Dave is stationed there taking care of contract work and procurement for the Air Materiel Command. He tells of seeing Dean Zeilon, who is now stationed in Texas with the Air Force. Dean is married and should be a father by the time you people read this. (How about sending in the details, Dean?) Fred Nelson is also out at Wright-Patterson. After graduation, he began work for North American in California, where he met *the* girl and was soon married. He is now serving out his R.O.T.C. commitment, and I believe that Fred will also be a father by the time you read this.

We have a few weddings to catch up on, and there are probably many more of which we haven't heard. On June 24, Richard Bergman and Judy Hyman, of Bennington College and Kew Garden Hills, N. Y., were married. They are now living in Plainfield, N. J., where Dick is working for the Shell Oil Company. Lieutenant Jacques Linder was married to Joan Helen Fletcher of Binghamton, N. Y., on September 1. Jack is stationed at Warner Robins A.F.B. in Macon, Ga. Lieutenant Walter Fritz, U.S. Army, was married to Suzanne Brunstrom of Winter Park, Fla., on July 14.

In June, John Wing and Barbara Barnett, of Wellesley College and Cedarhurst, N. Y., took the vows. They honeymooned in Trinidad, where John had a job for the summer, and are now living in Wellesley. Barbara is a senior this year, and John is finishing up at the Harvard Business School. On July 21, Carroll Barlow led Marianne Forster, of Framingham State Teachers' College and Boston, Mass., from the altar. They are now living in Chestnut Hill, where Marianne is busily engaged in homemaking while Carroll is in sales engineering with General Radio in Cambridge.

Ensign Peter Wallace, U.S.N., and Mary Leatha Kelleher, of Smith College, Boston University, Emerson College graduate school, and of Camden, Maine, were married on May 5. Pete is serving on the *U.S.S. Mississippi*, based at Norfolk. And last, but not least, Jim Kennedy and Marcia Jane Sweeney, of Sargent College and Needham Heights, Mass., took the vows in October. Jim is working for Stone and Webster in Boston. The wedding turned out to be quite a Phi Mu Delta reunion.

Getting away from matrimony, we received a nice note from "bachelor" (as he terms it) Hal Stubing. He just (September) finished his six-month tour of duty with the army and is back in Buffalo, N. Y., with the same company.

While we are talking about bachelors, I suppose this is as good a place as any to let the secret out of the bag and tell you people what I (Denny) have been up to this summer, and why there were no 1955 notes in the July Review. I was awarded an M.I.T. summer overseas fellowship which is, in a few words, a round-trip ticket to Europe, supplied by an M.I.T. fund, and a summer job with a company, supplied by the company. I was with the Marconi Wireless Company in Chelmsford (near London), England, from June through the end of August. From August 'til September 14, I was reduced to the

rank of American tourist and took in as much of Britain and the Continent as I found possible. It was really a terrific opportunity, and needless to say, I had a wonderful time. There were a few others from '55 over on the same plan. Paul Greiff was with Cabot Carbon in England; Dick Schwind was with Duval in Stockholm; and Mike Horstein was with a computer firm in Paris. I traveled up to Scotland with Paul and through most of Europe with Dick. Dick and I did it up brown in a brand new MGA which Dick bought on the idea of selling it back in the States. It was the ideal means of transportation and really allowed us freedom of movement and time-scheduling. We ran into Mike by accident (not with the car) in Geneva and spent a couple of days having a ball of a reunion. It was a wonderful experience and quite an education. And it is amazing how M.I.T. is a magic word wherever you go. People couldn't pronounce Massachusetts worth a darn, but they sure knew what M.I.T. was. (By the way, does anybody want to buy an MGA?)

Here comes the confession. Due to all the last-minute preparations — finals, boat reservations, and so forth — the class notes for July were not ready to hand in until after the deadline. At least from all the gripes we got, we now feel that some people actually read this stuff. It won't happen again.

Well, let's finish the tale of the European gallivanters. Dick Schwind is now back home in Cleveland, where he is probably working for Thompson Products, or selling used MGAs. Mike is still at M.I.T., working for an Sc.D. in electrical engineering on a General Electric fellowship, and yours truly is still a teaching assistant in Course VI, trying to get in my Master's thesis by February.

We received a nice card from Joyce Davis, which tells of her Master's degree in radiation biology, which she received at the University of Rochester on an A.E.C. fellowship. After spending nine weeks last summer at Brookhaven, she "retreated back to the academic milieu" by accepting a position at Yale as a research assistant in biophysics. Al Glueck received his M.S. at Princeton in chemical engineering, and is now working in Cleveland with the National Advisory Committee on aeronautics. Ron Wolff is at the Practice School at Oak Ridge. Ira Uslander is at Fort Leonard Wood, Mo., going through a six-month program. Irwin Sterman and Marty Shooman are at Sperry's on Long Island. Bill Lehman is at the Cambridge Air Force Research Center as a civilian, and Jerry Kliman is there as a lieutenant. Bob Greene is at Aberdeen Proving Ground on the six-month program. Lloyd Gilson is at the Lustrex Department of Monsanto's Plastics Division at Springfield, Mass.

This pretty much covers the situation for now. Have a grand holiday season, and let us know about you from time to time. — L. DENNIS SHAPIRO, *Assistant Secretary*, Room 10-185, M.I.T., Cambridge 39, Mass. DELL F. LANIER, *Secretary*, 54 West 71st Street, New York 23, N. Y.

1956

May I open this month by wishing everyone a Merry Christmas and a Happy New Year. *Business Week*, in an interesting article, says that M.I.T. is third among schools producing industrial executives.

It looks as though an era may be passing. The official announcement of Janet Baker-Carr's engagement appeared in the New York *Times*. Janet kept us entertained for many hours on WXHR, and her betrothal to a Harvard man cuts deeply. The announcement did not say our spot of old England would not grace the ears of those still at the great gray stone walls with a bit of culture, but her intended does not live in the Hub area.

Since a pertinent subject for the members of "The Most Wanted Class" seems to be diamonds, I thought I might do some sort of survey of diamond markets around the country. Information picked up from *The New Yorker* indicates that De Beers Consolidated Mines, Ltd., of England, controls 95 per cent of the diamond production of the world. According to the *Wall Street Journal*, the demand for diamonds is greater than the supply this year, and from glancing at De Beers "snob appeal" ads in the *Saturday Evening Post*, listing one carat stones at $600 to $1,100, I think I will inquire at General Electric to see how their synthetic process is coming along. This high price level seems to hold over most of the country, creeping even higher in low-volume and out-of-the-way areas.

To broach the subject and sanctity of our classmates bachelorhood, it looks like Marv Bahnman and Judy Galavan of Cambridge, have sneaked off and got hitched (colloquial from Kentucky). Shh! It is a secret. Dick Peskin has graced the pages of the Philadelphia *Bulletin* with the announcement of his engagement to Miss Joan Weiss of West Hartford. Lou Schwartz is marrying Miss Rochelle Kline of Brookline this month. Bill Dickson wed Miss Patricia Ann Lingley of Framingham. Paul Walter exchanged vows with Miss Grace Louise Carpenter of Stamford, Conn. Richard Shopf married Miss Judith Margaret Anderson of Dalton, Mass. Marty Reiss wed Miss Rhea Eunice Cohen of Brookline. Richard Mateles married Miss Roslyn Charlotte Fish of Brookline. Richard Lee Unruh wed Miss Nan Leslie Mishler of Portland, Ore. Stan Hart exchanged vows with Miss Joanna May Smith of Conway, N. H. Remember men, just because you are earning money, for a change, let us not get so enthusiastic about sharing it with anyone except Tech.

To those in the armed forces — hup, two, three, four, and whether you write with your right or left, write — sound off. — BRUCE B. BREDEHOFT, *Secretary*, 1528 Dial Court, Springfield, Ill. M. PHILLIP BRYDEN, *Assistant Secretary*, Box 37, West Topsham, Vt.

1956G

The first order of business is to pass along commendations to the men of this Class who sent along news of themselves via the postcard route to the Alumni Office. The response was excellent. To those who haven't found time to do so, I extend this opportunity to get on the bandwagon.

The second item on the agenda concerns the success of a number of M.I.T.'s brilliant graduate chemical engineers. Word was received from Bill Dickenson, Williams'54 and M.S. in chemical engineering practice, M.I.T.'56, that he is returning to Kimberly-Clark in Neenah, Wis. Another Course X-A graduate, Bruce Phillips, Harvard'54, has begun his technical career with Linde Air Products in Tonawanda, N. Y. He is engaged in research on molecular sieve adsorbents. Hal Work, Yale'55, is with DuPont in Wilmington, Del. We also heard from Roger Letts, another Yale engineering undergraduate. After finishing his M.S. in chemical engineering this summer, he found himself the envy of his colleagues by becoming the wearer of a gray flannel suit for American Cyanamid Company in Rockefeller Plaza, N. Y. "The group is in experimental statistics, operations research, process math, automation and control problems and runs a digital computor. My job will be to consult with plant and research people on applicable problems and solve them with the mathematicians." Roger had a previous interesting assignment working for the Graduate House Social Committee in Acquaintance Mixers. Jerry Berkowitz is doing chemical engineering for Grace Chemical Company, in New Orleans. A recent graduate in chemistry, Leonard Newman has located in nearby Winchester, Mass., with National Lead Company. He and his family recently bought a new home at 8 Phillips Street, Woburn, Mass.

Many graduates of the United States Military Academies at Annapolis and West Point have come to M.I.T. for graduate study. They have taken a varied program of study including electrical engineering, aeronautical engineering, civil engineering, marine architecture, and industrial management. It is our pleasure to have heard from a group of naval officers who have recently completed their graduate work here. Lieutenant John E. Rasmussen completed his M.S. degree in marine architecture, then spent his summer in beautiful Monterey, Calif., studying industrial management. His next assignment with the Navy is in Yokosuka, Japan, for two years. Lieutenant Rosenthee Krag reports he is stationed in New London, Conn., on submarine duty. He also received a Master's degree in marine architecture. After graduate study last year, Lieutenant Francis Manganaro left for U.S. Naval Shipyard in Pearl Harbor, with his wife and three children. Lastly, we have heard from a Naval Commander, William D. Coyne, who came to M.I.T. for graduate training in aeronautical engineering. Commander Coyne is now a staff officer aboard the Commander Carrier of Division Seven in the Pacific.

The officers of the Class would like to inform the members that Mal Rivkin has been appointed class agent. — CHARLES T. FREEDMAN, *Secretary*, 134 Cleveland, Long Beach, N. Y.

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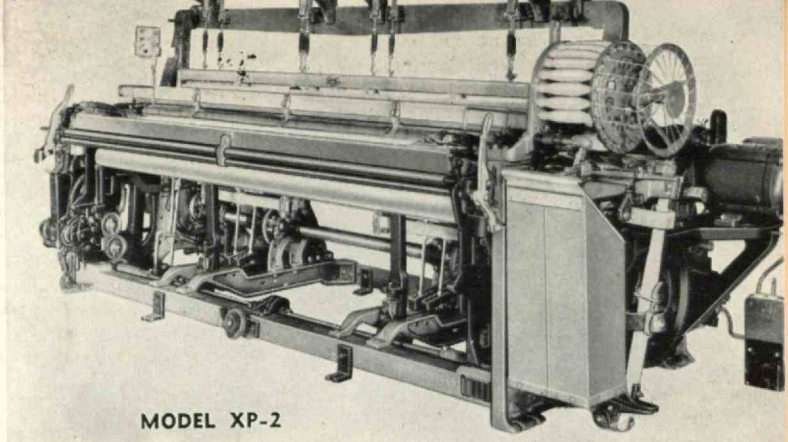

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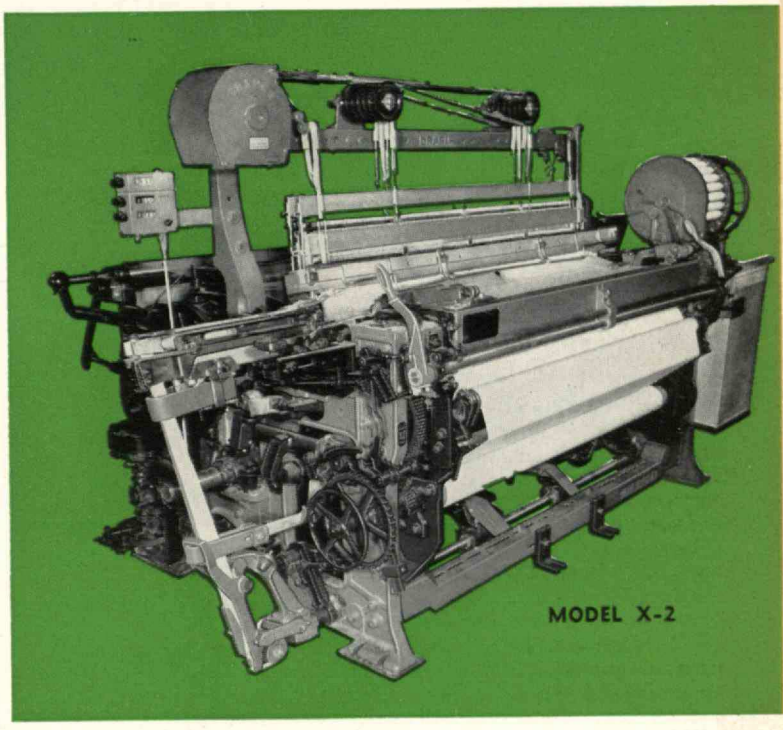

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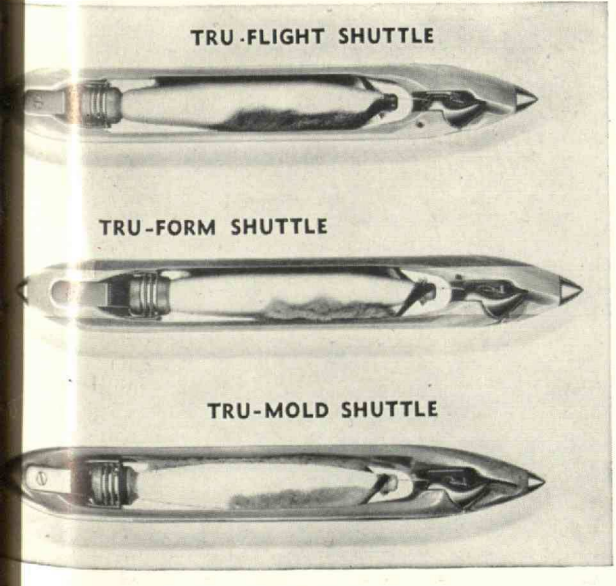

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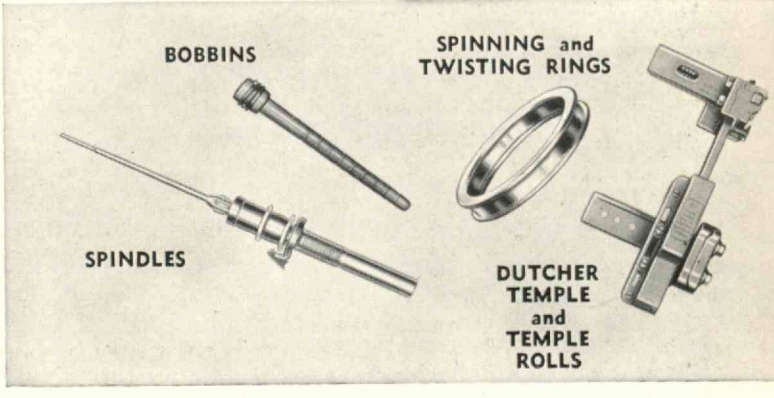

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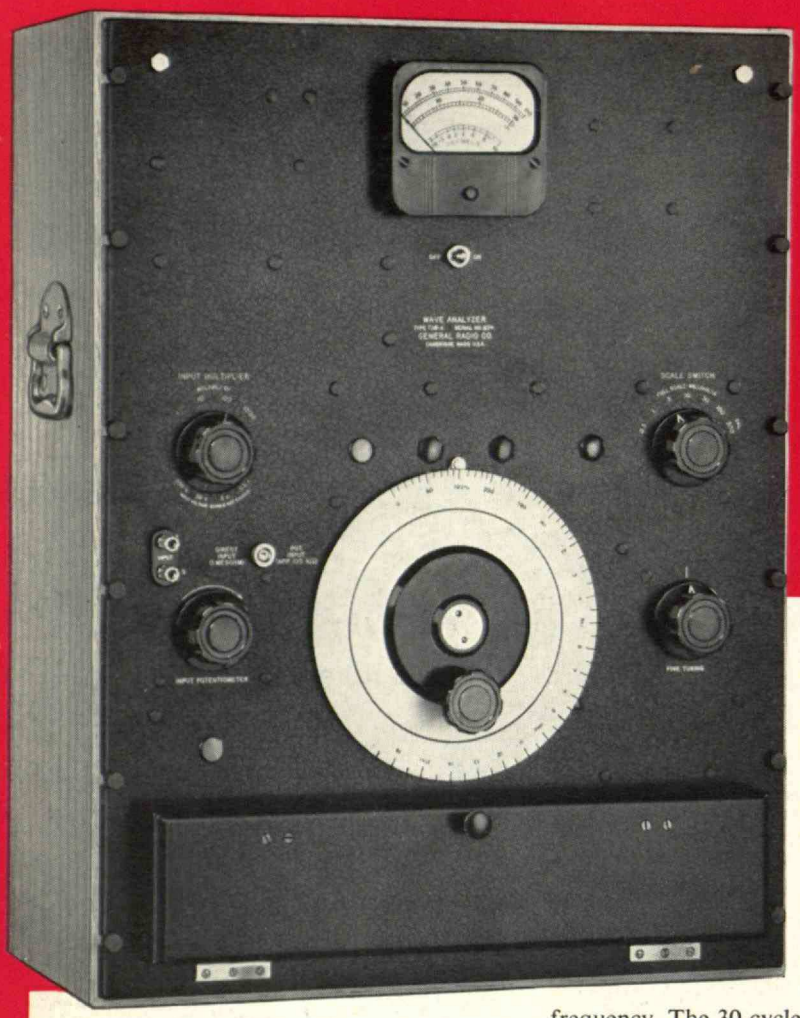

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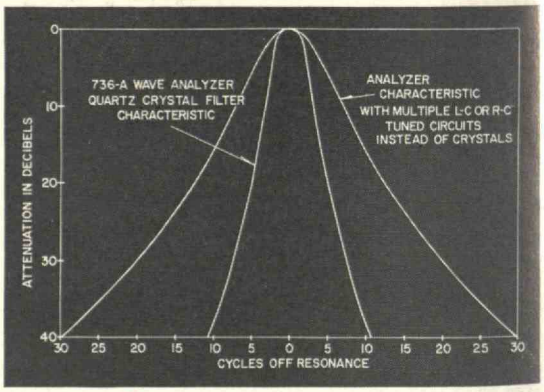

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